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May/June 1991 $3·50

CB Action

AUSTRALIA'S ONLY CB MAGAZINE

Reviews:

- MIDLAND 77-250 AM RIG
- LEOPARD MkII UHF RIG
- TWO AIRBAND SCANNERS
- SONY SW-7600 RECEIVER

HOW TO WORK YOUR FIRST 20 SW STATIONS

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ON CHANNEL

SURVEY

Well, to say that we were swamped with survey responses would be a masterpiece of understatement. They started coming in on the day following the magazine's on-sale date and are still arriving as this issue goes to press.

Naturally enough, with this enormous level of interest, we just have not had time to process them all but this will happen during the next few weeks at which time we'll have strong indicators as to just what you, the reader, want in CBA. Even without analysing the replies, it is obvious that scanning continues to be the current flavor of the month, however, while this subject looks certain to be the single most popular segment of the mag virtually all sections received a good response and it's going to be interesting to see which subject fills second place.

Rig reviews also appear to have scored heavily as have Bob Bell's HF utilities and Rob Williams' shortwave reports and articles. Early indications are that our readers split into two almost separate groups, one having a major interest in 27MHz DXing, reviews on AM/SSB rigs and anything at all on HF antennas.

The other group come out strongly in favor of virtually everything other than 27MHz. They want more scanning frequencies, shortwave information, communication related computer programs and reviews on the latest scanners. Some readers seem to have no specific area of interest but have a general interest in virtually anything related to radio...one reader even wants a do-it-yourself article on how to build a crystal radio. Now we don't mean a 'crystal controlled radio as with separate crystals for various frequencies' but a genuine circa 1920's style crystal radio. Now we just don't have a ready-to-hand article on crystal radios and we figure the interest is probably limited to this one reader so we're sorry, but we can't spare the space. However, if someone out there has instructions on how to build one, please drop us a note and we'll pass them on to him.

Surprisingly, on the survey replies that have already been processed, the old 'Eagle Droppings' has been requested by quite a few readers, boy, there are some real old-timers out there! Again, sorry, but we can't oblige. We tried to get 'Fred (Eagle One)' to recommence his column a couple of years back but he reckoned he'd said it all before and wasn't about to start again...since then he has faded into the distance and we haven't even heard from him for a year or more...pity, as he tells a good story.

IN THIS ISSUE

There's heaps to interest almost everyone in this issue, however, we have to apologise for the 'secret scan frequencies' report from Bob Lopaka. The article relates only to NSW and we almost didn't run it because of its limited interest, but, Bob tells us that he'll do his best with a similar piece relating to other States if he can collect the information. Jack Haden has an interesting article on 'Freebanding', Rob Williams tell you how to work your first 20 shortwave stations.

CB Action

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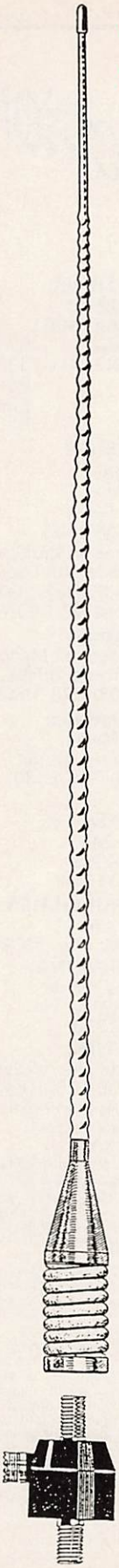

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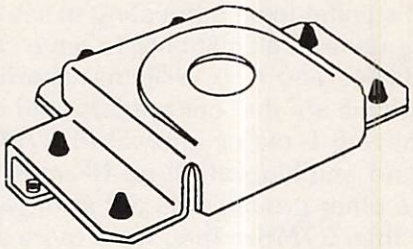

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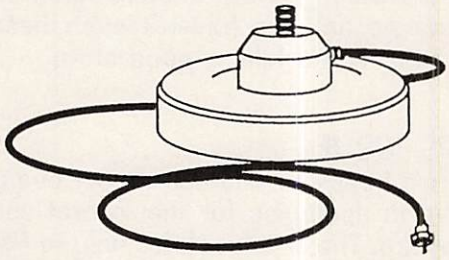

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Sony ICF-SW7600

My interest in HF listening has recently been re-born, a matter in which the Gulf War had some influence. On the world broadcast bands we had Armed Forces Radio from the BBC and America, and Kuwait's laughable attempts at propaganda from 'Baghdad Betty'. Plus the combined activity of armed forces at sea, on land and in the air, all heard on various sideband frequencies. This, along with some regular favourites on the shortwave bands, provided the impetus to once again delve into the realm of HF receivers.

My last such unit was the Sony ICF-7600D (known in overseas markets as the ICF-2002 and 2003), a neat little portable which was lightweight, rugged, easy to use and above all an impressive performer. It's also a radio no longer of this world, a unit which last year ceased production but in the time-honoured tradition of messiahs and movies has returned with the promise of even more. Yes, it's the Sony ICF-SW7600 - 'Son Of 7600D' - now showing at a dealer near you!

The original 7600D remains the world's most popular shortwave portable, and Sony have obviously seen no reason to mess with success - they want the SW7600 to become THE portable of the '90s.

IMPROVEMENTS

The face-lift is welcome. Even before you turn on the radios, lift the covers, you can see the influence of the years. Where the 7600D was chrome the SW7600 is black; where one was square, the other is rounded; where one is sharp-edged, the other smooth. There is an obvious styling symmetry with Sony's pocket-sized SW1.

Sony have taken this opportunity to improve the ergonomics, too. The numeric keypad now follows the familiar and near-standard layout of the DTMF or push-button telephone, the zero key being relocated from its position under the '7' on the 7600D to beneath the '8', as is (or should be) the norm. The LCD frequency readout is larger and now backlit at the touch of a button, a creature comfort sorely missed on the 7600D. A further noticeable improvement is that the side panel controls - volume, tone, mode and fine tuning - are now located on a small 'hump' which makes them easier to manipulate than the D's flush-mounted equivalents.

The rear panel of the 7600D included a world map with UTC zones; to this the SW7600 adds Zulu modifiers for a dozen of the world's major cities, while the panel itself swings out to become a stand which elevates the receiver onto a 45 degree angle for more comfortable desktop use.

Both radios include a digital clock which doubles as a 'sleep' timer to take you to the land of nod, and an alarm to wake you the next morning. My only quibble here is that while the 7600D's LCD clock had its own display window, the clock and frequency display of the SW7600 share the same digital readout and so the clock is only activated when the radio is turned off. This is a backwards step, as the clock is handy for logging, tuning to regular favourites or simply knowing that it's high time you stopped playing with the radio and went to bed!

The tone control is quite rudimentary, no more than a switch labelled 'news/music' (the first setting removes high-end signals to add emphasis to the bass); while the DX/local switch cuts in an attenuator which is mostly effective in reducing potential overload from local stations on the AM and FM broadcast bands. Sockets are provided for an external antenna, direct 'line-out' to a tape recorder and a 'remote' jack which can be used in conjunction with the SW7600's standby alarm to allow for unattended recordings. In operation the line-out audio was found to be rather low level and unless your tape unit has a record level control it would be better to take a line from the SW7600's headphone socket, although this has the side effect of muting the receiver's internal speaker.

FREQUENCY COVERAGE

The 7600 series have always been small in size yet big on performance, and this is the starting point for the SW7600. Weighing in at just 615 grams and little larger than a paperback (191 x 118 x 32 mm), it still retains all the flexibility of its predecessor. The frequency coverage is continuous between 150 kHz and 29.995 MHz, with an FM band of 76-108 MHz thrown in for good measure Without wishing to appear picky, it would be nice to see the next generation of the 7600 fitted with the VHF airband, as are some of the other multi-band HF portables in the Sony line up.

The 150-528 kHz longwave segment is covered in steps of 3 kHz although there's precious little to hear downstairs, apart from aero beacons and some cw. Channel spacing in the AM broadcast band from 531 to 1611 kHz, can be set at either

9 kHz or 10 kHz; the former applies in Australia, New Zealand and most of the world. The remainder of the HF band is tuned in 5 kHz increments, and the FM allocation in 100 kHz steps.

If you are by nature one who hops across the whole 30 MHz of HF then you will appreciate the receiver's 'band tuning'. All 13 international shortwave bands are pre-programmed into the CPU so you can jump directly from one segment to another. A further convenience is that the front panel of the SW7600 lists these bands directly beneath the frequency readout on the front panel, with their wavelength designation in metres and their upper and lower limits in kilohertz.

The SW7600 provides you with three ways to tune across the bands. You can enter the frequency directly from the keypad (the numeric keys can also be used to recall up to 10 frequencies, a feature without which few if any shortwave or utility listeners could survive); work your way along using the manual tuning up/down buttons; or allow the rig itself to scan for a signal. This latter operation places the emphasis on what the SW7600 defines as a 'listenable' signal, which without the benefit of any squelch or muting control must be well above the noise floor. This scan procedure is confined within the currently selected shortwave band. If for instance you are 'scanning' within the 25 metre band which lies between 11650 kHz and 12050 kHz, should no suitable signals be found by the time 12050 rolls around the receiver will return to the lower frequency limit and start again. You can start the 'scan tuning' anywhere within the SW7600's range, but once it enters a broadcast band it will remain trapped there.

FINE TUNING IS FLAWED

Because the SW7600 steps through most of the HF bands in 5 kHz increments, even an odd frequency entered directly from the keyboard will be rounded up or down to the nearest 5 kHz. As luck would have it precious few shortwave broadcasters or utility stations operate in such a neat manner, so you are constantly diving for the SW7600's fine tuning control. This thumbwheel knob is useful for reducing adjacent channel interference, tuning into stations between the 5 kHz slots and of course for sideband traffic. The fine tune range is +- 5 kHz, an unusually large sweep and one which takes some getting used to. This is compounded by the fact that using the fine tune doesn't alter the actual LCD frequency readout - so what is read on the display as being 17720 kHz may in fact be anywhere from 17715 to 17725 kHz. And the display will remain inaccurate until you reset the fine tune and the rather obvious lack of a centre detent on the knob makes life a bit harder than it should be in this respect.

POWER SOURCES

The SW7600's nominal battery requirement is four penlight or AA cells which are available at almost any store, petrol station or newsagent. Whereas the earlier 7600D called for an additional two cells to maintain the clock and memory settings the SW7600 has done away with this and uses a slow-drain capacitor which gives you 10 minutes grace in which to change old batteries for new. Be warned that the SW7600 is quite thirsty, a characteristic family trait of many Sony receivers. The handbook admits to a figure of "approximately 10 hours of listening" for each set of batteries. As with most modern electronic appliances you would be well advised to use long-life cells such as Energizer or Duracell. I loaded up some of Energizers and easily obtained 15 hours of solid signal. Conversely, a set of supermarket 'el cheapo' cells barely managed six hours before the radio gave its dying gasp. The receiver's performance drops off severely as the batteries weaken, to the point where even local AM broadcasters sound like a bad night at Radio Moscow.

All this assumes that you are not already kitted up with rechargeable nickel-cadmium cells. For the average householder nicads may or may not be necessary. But if, like me, you've got a Walkman and several handhelds or portables in regular use, nicads are the only way to go. The downside here is that such considerations are doubly important with the SW7600, for the Australian model does not come with an AC adaptor. Clearly Sony will have their reasons for this, and so when weighing up the cost of this radio you should remember to add the cost of an appropriate six volt adaptor.

Sony do include a set of in-ear headphones and their AN-61, a brilliantly simple longwire aerial. Another manufacturer might bundle a length of hook-up wire in a plastic bag, but not Sony. They've used a wind-up reel similar to a tape measure to hold seven metres of cable which fastens to the SW7600's telescopic whip. Just wind out the aerial, attach one end to the whip and the other to a curtain or something similar (using the spring-loaded clip mounted on the reel casing) - and you're in business. The AN61 was a big improver on the telescopic whip, and is extremely practical to boot; HF hobbyists could do a lot worse than hacking together a clone of this using anything from a tape-measure case to a fishing reel.

WAVE HANDBOOK - NICE IDEA, BUT...

Also supplied with the SW7600, as with most Sony HF portables, is their "Wave Handbook". This is a noble attempt at giving newcomers to the bands a head-start into shortwave and is well-aimed towards migrants who wish to "listen to home". The 120-page Wave Handbook lists schedules for the international broadcasters of over 70 countries, with each station's callsign and postal address and an easy-to-read chart showing frequency and UTC time for broadcasts to the five world regions of Africa, America, Asia-Oceania, Europe and the Middle East. I found the graphic presentation far superior to the lists of numbers used in such tomes as the World Radio TV Handbook, and would have instantly tuned into Radio France International (I'm still trying to brush up my French for a languages degree!) but for the fact that the Wave Handbook was last printed and updated in 1989. In the ever-changing world of shortwave radio, a two-year-old listening guide is of as much use as a two year-old newspaper. The regular twice or quarterly schedule changes alone make the handbook a piece of history, without even considering what the politics of Europe and the USSR have done to alter the scene. The Wave Handbook scores 10 out of 10 for merit but minus several hundred for practicality. If Sony wish to continue this excellent idea and at the same time make it of real use to the shortwave buyer, perhaps a yearly edition could be produced.

If you are by now wondering where to get the most accurate HF listening info, I recommend the WRTH and Passbook to World Band Radio; the informative newsletters of OzDX, the Southern Cross DX Club, DX Australia and the Australian Radio DX Club; tuning into special hobbyist programs on shortwave stations, and if you have a PC and modem then tap into the computer bulletin boards' Australian and international radio message areas. And don't forget CB Action!

SUMMARY

The SW7600 is solid enough to be considered a 'serious radio' by the average enthusiast, compact enough to be truly portable, and offers the right level of convenience to make both categories of buyer place this radio near the top of their shortwave shopping list. The most serious handicap is the tuning system, which will keep away the more demanding ute and SW tyros. For the rest of us, - at just $399 the SW7600 will be a good entree into 'world radio' or a free-roaming companion to your desktop receiver.

THE LEOPARD -MK II ROARS AGAIN

Ken Reynolds looks at the new Leopard Mk II UHF rig from Hatadi, a compact package which does the job required with a touch of class

Like most UHF CB rigs, the Leopard MK II is a quite compact package with a sparseness of controls more reminiscent of an older style 27MHz AM only style transceiver from the era when medium size was compact enough.

The color scheme is strong black, highlighted here and there with bright 'chrome' plated plastic trim.

At the top left, three rectangular press buttons provide for Simplex/Repeater operation - I don't know why they persist in calling it DUPLEX - followed by tone squelch which is rarely used on CB and the tone call button, generally associated with the SELCAL signalling system. The trap for inexperienced players here is that if you accidentally operate the tone squelch button, you kill the receiver until the function is restored to its normal 'out' condition. Both the tone buttons are usually employed for SELCAL operation, although most of the SELCAL modules available these days are designed for single button operation as well.

One the best features about the Leopard's front panel facilities is the 'S' meter - which doubles as an output power meter. While it means nothing to the 'commercial' users, who account for a large portion of the UHF citizens band operators, the inclusion of a proper signal strength meter can be a big buying point for the thousands of hobbyists for whom a reference signal reading is paramount in a serious UHF rig.

The Leopard is manufactured in Taiwan - which by today's standards is a good recommendation - from good-quality components on a fibreglass circuit board and the whole assembly neatly fits into a strong steel chassis finally protected by similarly rigid, vinyl laminated pressed steel covers in which all the screw holes line up nicely.

The rest of the UHF manufacturers could do well to learn from this small point - it's called giving the customer what they want instead of asking them what they want and then ignoring them. It's a real shame, Mr Hatadi, that the meter on the test rig showed less than astute QA and was reading between 'S' 1 and 2 in the absence of any incoming signal. Also, the needle was far too eager to leap off the mark with quite low level signals, much like the old Philips FM-320 rigs.

The other front panel features are standard on/off volume control, squelch, channel selector switch and channel number display with a couple of extra LEDs thrown in to indicate transmit and receive conditions of operation.

The spec sheet tells us we can expect 0.5 micro volts sensitivity for 12dB SINAD, however, the real figure on the test rig was heaps better at 0.35 micro volts, but still short of the common trend to get the performance down into the zero-point-twos.

The received audio is really nice, offering quite well rounded frequency response. It doesn't sound too bad on music either thanks to a local repeater DJ.

Interference in heavily RF polluted urban areas is par for the course with most UHF CB rigs and the Leopard is no exception to the rule, except this time we heard a couple of new stations...very interesting!

The squelch threshold was an easily epeatable 0.2 micro volts, while 'tight' (maximum level) opened the audio circuit at about micro volts. The squelch has a good alance between attack time and the necesary hysteresis to stop continual mute opping' with fluttery mobile signals.

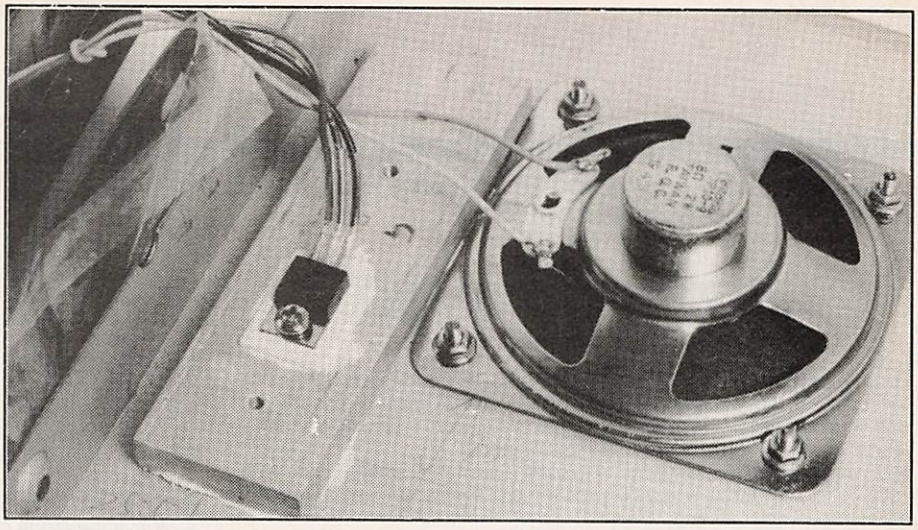
The transmitter provided us only four watts utput at 13.8 volts, however, no effort was nade to extract 'that little bit extra' that sually lifts these things up to above the egal limits by a watt or two.

Starting frequency accuracy was about ne kilohertz too high, however, after a few inutes operation the error had decreased o around plus 500 hertz which is good nough for spec. Deviation was good at four ilohertz and the transmitted audio sounds st as good as the competition, which in the nal analysis, is the real proof of the pudding.

The internal construction of the Leopard eems to have recently gone through some pe of revision with a major component teration in our test rig. It appears that they ay have been having problems with the ower regulator 'chip' overheating, or someing of that nature, because the little corner here the chip is usually mounted is now full f silicone heat compound and the regulator as been radically removed to another lace. And I do mean radical.

The leads of the 'chip' have been extended y about 100mm and the new heat sink rovided is a bar of aluminium measuring 00mm long by 30mm wide and 9mm thick. he whole assembly is bolted firmly to the side of the case cover beside the udspeaker.

The end result is not as neat as we would expect from a recent production innovation. However, it is certainly effective (see pic) and unless you're going to pull the lid off to have a look you'll never even know it's there.



Unlike most of the recent UHF mobile offerings, the Leopard does not offer channel scanning at this point in time, but who knows what the future holds for the Mark III model.

SUMMARY

The Leopard Mk II has lots of potential, however, while the rig is well priced, I'd bet that the customer base would be prepared to pay an extra dollar or two to have the meter work 'spot on'.

It has the necessary goods to be a serious contender, but, it has a way to go before it can rightfully lay claim to the 'champion'.

It is so close to being 'just right' that maybe just a tad more spent on relatively minor points would push it close to the top of the UHF brigade.

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MARINE RADIOS
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2. Pearce-Simpson Sea Wolf.....$159
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SCANNER AERIALS

scan

by Russell Bryant

FREQUENCIES, CODES and EVERYTHING ELSE YOU WANT TO KNOW ABOUT SCANNING

All frequencies are FM and all times are local, unless stated otherwise.

IN THE BEGINNING

(PART 1)

I suppose it is a criticism of columns like SCAN and Scanning Action before it, we tend to preach to the converted. Columnists, authors and communications journalists in general rattle on assuming that the reader knows what the hell we are talking about.
Many readers write, asking me to explain a term or enquiring about what band is what, as well as the meaning of the names and numbers associated with scanning. It is evident that an increasing number of readers of CB Action and specifically SCAN are new to the hobby. They have purchased a scanner and by whatever means learnt to operate it. Not content with being half involved, they seek out information that can assist them in expanding their knowledge of the subject. Whether it be golf, football or basket weaving each hobby, pastime or recreational pursuit has a language all its own. Scanning is no different, in fact it has invented a few new words along the way. The word SCANNER for example, prior to the invention of the device we now know, had no application to radio.
In the next few issues of SCAN, I will cater to the newcomer, the beginner who wants to know more and is not afraid to ask. The format in this column will follow a simple path, basically question and answers. The questions will be general and a composite of those asked by readers. So here we go.

Q: What is meant by simplex?
A: Simplex, whilst not unique to VHF is more likely to be found there than say UHF. In a simplex system all users, base, mobile and handhelds transmit and receive on the same frequency. All units operating on simplex can only hear the other units when within range. It is a direct form of radio communication.

Q: What is a duplex system?
A: Duplex is often erroneously applied to a repeater system. Full duplex is an advanced form of communications found mainly in the mobile telephone bands. Transmissions occur simultaneously on both frequencies just like a telephone. When it comes to a repeater system, Semi Duplex is the method of operation. One frequency for transmit and one for receive, conversations can not take place simultaneously making it necessary for each station to release the press to talk button before the other can speak. Some semi duplex repeaters do not retransmit the mobile, taxis and couriers use this to prevent drivers talking to each other. The police on the other hand retransmit the mobile over the base frequency so that other cars can hear what is happening. This is known as Constant Re-Transmit.

Q: What are the various commercial bands called?
A: 30-50 Low band VHF, 68-88 Mid band VHF, 108-118 Air navigation band, 118-136 Air communications band, 148-174 High band VHF, 250-400 Military UHF, 400-470 UHF low, 470-520 UHF mid, 800-950 UHF high.

Q: Are scanners legal?
A: Several pages could be written about the legality of scanning. Basically it is perfectly legal to monitor any transmission you wish. With one exception, any radio transmission that takes the form of a telephone conversation is out of bounds. That includes 500 and 800 MHz car phone, VHF seaphone, RFDS HF and Telecom Radphones, cordless phones and trunking phone patch. It is also by international convention that no message or part of message received be conveyed to a third person. In other words if you hear it, you don't reveal it.

Q: Is there any advantage in mounting an external antenna?
A: Most definitely, even the most rudimentary of external aerials will provide some gain (of the non-electrical kind) over the basic set aerial. A mobile whip mounted on the household guttering using a car gutter grip works well. Plus, it's cheap.

Q: I live in a capital city, which is the best external antenna for me?
A: For those who live in or near a major city a discone or co-linear is preferred. Because of the large amount of RF, (radio frequencies), floating around cities like Sydney and Melbourne, a low gain aerial is a must, it reduces the possibility of receiver overload.

Q: I live in the country, what type of antenna should I use?
A: For those enthusiasts who live away from the built-up areas, an active antenna is ideal. Basically an RF amplifier is built into the aerial, the amplifier boosts the signal to the radio. Active antennae are not suited to heavy RF areas due to overloading of the radio.

Q: How can I tell which stations use AM and which use FM?
A: Within the range of the average scanner there are basically only three services likely to be found on AM. They are the 27 MHz CB band, some amateur transmissions and the aircraft band 108-136 MHz, nearly all other radio uses will be FM. I say nearly because there are still a few VHF systems operating on AM.

Q: Is there any problem if I mount my external antenna on the TV mast?
A: Generally it is not a good idea to have your TV and scanner aerials on the same mast. If there is no alternative try to insulate the TV aerial from the mast. Even though both the TV and scanner are receivers, they emit small amounts of RF, due to the close proximity of the aerials to one another, interference is possible. Televisions build up massive amounts of static electricity, if the TV has a common ground with the scanner via the mast, the static can discharge through the scanner, especially if your receiver has a metal case or chassis.

Q: I want to buy a scanner. Which is the best for my situation?
A: The question of which scanner for me is rather a subjective one. Sales figures gleaned from the importers of scanners clearly show that handhelds are the most popular. A scanner for all applications, able to be used independently of power supplies, adaptable to mobile and base use. Check out where, how and when you wish to use a scanner, then purchase the one that fills that criteria.

Q: Can I use 75 ohm TV coax on my scanner, although it says 50 ohm.?
A: There is no problem in using TV cable on your scanner. The mismatch between the two is so slight your scanner won't know the difference. In fact a technician friend conducted a survey on the antenna impedance of various scanners. Results varied from 26 ohms to 250 ohms.

Q: After it has rained my aluminium discone seems to work better, why?
A: With all the airborne chemicals and salts reacting on the metal surface of the discone, some degradation of signals can be expected due to the electrolytic properties of the pollution. The rain washes the salts and chemical off the aerial, removing the RF short.

Q: While monitoring frequencies in the 168 MHz range I can hear amateurs talking, why?
A: What you are hearing is an "image" of frequencies in the 2 metre ham band. To work out the "real" frequency you have to perform some mathematics. Firstly check your scanner's handbook, it may tell you the IF or intermediate frequency for that scanner. If it is Realistic, Regency or Handic model the IF is 10.7 MHz. Electra Bearcats have a 10.8 MHz IF, whilst Uniden models have 10.85 MHz as their IF. If you double the IF then deduct it from the frequency affected by the image, you should have the offending user.

Q: On certain frequencies my computer interferes with my scanner. Is there any cure?
A: Yes, turn either the scanner or the computer off.

Q: How is it determined if a frequency is HF, VHF or UHF?

: The radio spectrum is divided into nine bands which are desig-
ated as follows; Very Low Frequencies (VLF) 3-30 kHz, Low Fre-
uencies (LF) is 30-300 kHz, Medium Frequencies (MF) is 300 kHz-3
IHz, High Frequencies (HF) is 3-30 MHz, Very High Frequencies
/HF) is 30-300 MHz, Ultra High Frequencies (UHF) is 300-3000
IHz, Super High Frequencies (SHF) 3000-30, 000 MHz, Extra High
requencies (EHF) 30, 000-300, 000. The frequencies above 300,
00 MHz have not yet been designated.

: Can my scanner receive frequencies outside the advertised ange?
: No. Most scanners have fixed frequency bands, several can be ex-
nded by a few megahertz beyond the advertised bands, however un-
ss you use a converter I'm afraid "what you see it what you get".

: Can I operate my handheld scanner while it is on charge?
: Absolutely, there is no problem with using the scanner whilst charg-
g the battery. The charger should normally be over rated (in amps)
hen compared to the battery. There is no problem with this as the
attery will only draw the amount of amps it requires. There is certain-
enough left over to run the handheld without any loss to the battery.

: Where can I find out what frequencies are used in my area?
: The best way of finding frequencies is the microfiche released by
oTaC. However, not everyone can afford the $500 need to set up,
75 for the slides and the remainder for the fiche reader. The ESG fre-
uency guides are the next best thing. Compiled from the DoTaC files
ey have all the garbage removed, revealing only the information
eeded. Of course a subscription to CBA also helps.

: Why does my scanner stop on a frequency when there is no ignal present?
: Your scanner is stopping on a 'birdie', or internally generated RF.
he electronics within the unit are mixing with themselves to produce
e birdie. A simple method can be adopted to determine if it is a bir-
e or a signal from an external source locking up the scanner.
emove the aerial and desensitize the scanner by winding the mute
o. If the signal is still present chances are it's a birdie.

: Do you need a licence to use or own a scanner?
: No. A scanner is a receiver and whilst certain DoTaC publications
fer to licence fees for receivers, they do not apply to scanners, com-
unications receivers, televisions, etc.

: I will be travelling to Europe shortly, would it be safe to take a canner with me?
: Leave the scanner at home. It may surprise some readers, that
ustralia has by far the most liberal of laws when it comes to scan-
ers. Some European countries such as Germany forbid the monitor-
g of frequencies above 26 MHz. Even England takes a dim view of
eople listening in on other than public broadcast frequencies. Apart
om that you may find your scanner travelling second class in the bag-
age section of the aircraft. Air crew don't like receivers on-board the
ane.

MAILBAG

VA AMBULANCE CODES CONTINUED

s promised in the last issue, here is the second and final installment
codes from the WA Ambulance Service. These were provided by
il in Medina.

A MEDICAL CODES
=Allergy, 32=Asthma, 33=Bites and Stings, 34=CVA,
5=Debility, 36=Dehydration, 37=Altered consciousness
8=Diabetics, 39=Disturbed or Abnormal Behaviour,
0=Drug Overdose41=Fits, 42=Hypothermia, 43=Infections,
4=Neonatal 45=Poisoning, 46=Respiratory Distress, 47=Cancer
8=Cancer Terminal, 49=Other

OUTINE CODES
=Cat Scan, 52=Cardiac Catheter, 63=Day Treatment, 54=Dialysis
5=Hospital Discharge, 56=Radiotherapy, 57=Sporting Fixture
8=Standby, 59=Other

ME CODES
9=Arrival at Scene, 80=Depart Scene For...,81=Destination
2=Cleared, 83=At Sub Centre, 84=Police.

(continued over page...)

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scan

by Russell Bryant

CONTINUED FROM PRIOR PAGE.....

MORE ON ST.JOHN IN VICTORIA

While on the subject of ambulances, it appears there was slight error in the information regarding St.John Ambulance in Victoria. Here are the correct details. CH.1/11 470.150 TX Dunns Hill, CH.2/12 470.400 TX Nauru House, CH.3/13 469.525 simplex, TX Mt.Waverley, CH.4/14 470.975 TX Mt.Anakie. Channels 11, 12, 14 are base talk around frequencies (simplex).

The callsign of St.John is VM3SJ and it operates between 0800-1900 on weekends, however the control centre may also be opened for special duties and emergencies outside these times.

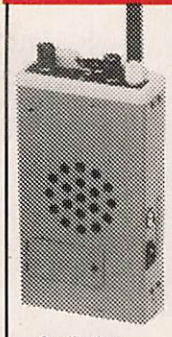
Individual callsigns are; 1-5 Mobile first aid units, 6-7 Marine units, 8-9 Caravans, 100 Radio net control units, 150 Duty officer, 200 Superintendent, 300 Officer, 400 Doctor, 500-539 Portable radios, 540-549 Sergeants, 550-559 Manpack Radios (25W), 560-599 Not allocated, 600 Registered nurse, 700 Ambulance officer, 800-839 Communications

officer, 840-849 Communications technicians, 900 Special duties. Job priority codes are **CODE 1**-Red lights, headlights, siren.**CODE 2**-Red lights, headlights only, **CODE 3**-Dispatch code normal road conditions, **CODE 4**-Patient deceased, **CODE 5**-Police required. **PURPLE** message-Actual injury during an exercise, **PRIORITY** message-Important message above all others, **PRIORITY RED**-Any life threatening message.

MONITORING THE MONITORS

The emergency organization CREST is well know throughout CB circles. General they maintain a listening watch on the HF and UHF emergency channels. Martin in Newcastle NSW has come up with a pair of frequencies used by CREST not only for in house communications, but also as links to and from channel 5 UHF CB remote bases. The frequencies are 473.975/479.175. Drop me a line here at SCAN if these are used in your area.

R537S HAND-HELD AIRBAND RECEIVER



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Signature ..... **Date** .....

MIXED BAG FROM TASSIE

Moving to Tasmania Jason of Prospect Vale checks in with a mixed bag of goodies. First up it appears the Colonel uses different frequencies in his stores on the Apple Isle. Kentucky Fried Chicken use 40.490/150.875 for their drive-through windows. Telecom maintains an extensive VHF network throughout the state. Here are the details, CH.1 80.040 Hobart, CH.2 80.280 Launceston, CH.3 80.040 Burnie/Devonport (different CTCSS to CH.1), CH.4 80.145 West Coast/King Island, CH.5 80.520/80.040 Talk through (rarely used), CH.6 80.655/80.280 Talk through (rarely used), CH.7 80.520 mobile to mobile, CH.8 80.655 mobile to mobile, CH.9 80.415 Hobart, CH.10 80.310 Launceston, CH.40 76.790 SES liaison. Jason would appreciate the frequencies for Hobart Coaches and Radio Station 7TTT-FM "Black Thunder" outside broadcast link.

COFFS HARBOUR FREQS

Geoffrey in Manly NSW used to live in Coffs Harbour and has supplied a number of frequencies for the resort town. Police 83.760, 83.820, 469.100 and marine 161.750. Ambulance 76.670, Fire 78.010, SES 168.820, 168.850, 468.600, 468.625, 468.650 and finally 119.1 AM. Telecom 158.620/164.530, 158.650/164.560, 158.680/164.590, 158.710/164.620, 158.740/164.650, 159.400.

LIFE'S UPS AND DOWNS NO.1

Boat Owner: "Pan!", "Pan!", "Pan!",
Coastguard: "Frankston Coastguard to vessel calling Pan. What is your position?"
Boat Owner: "Number Three berth St.Kilda marina, I'm locked in the cabin"

LIFE'S UPS AND DOWNS NO.2

Apparently a young female Customs Officer was indulging in a close encounter of the carnal kind, without having removed her portable radio from her belt. As fate would have it, the press to talk was jammed on transmitting her amorous adventures to all and sundry. ScanFan, who contributed both items it awaiting a repeat broadcast.

MUDGEE FREQS

For readers in Mudgee NSW, Robert supplies a few frequencies for the area, 72.740 Mudgee Shire Council, 76.670 Ambulance, 83.940 Police, 84.480 Volunteer Rescue Service, 468.050 Police cross band, 470.525 Ulan Coal, 491.350 Volunteer Rescue cross band. Robert also asks if the Tandy PRO 2023 can be expanded as far as memory capacity and frequency range is concerned. And can it be used mobile? The PRO 2023 is based on the Uniden 175 XL scanner. It's frequencies and memory are permanently programmed in and cannot be altered. Even though I reviewed the radio some time ago, I recall it had a 12VDC jack on the rear panel. A cigarette lighter lead would enable you to use the 2023 mobile.

HANDBOOK WANTED

Craig in Taylors Lakes VIC asks if any reader can assist with a copy of the handbook for a HX 200E Regency handheld scanner. If you have the book or a photocopy thereof, let me know and I will pass the information on to Craig. He is willing to pay for a photocopy.

WA MEDIA

These are the WFM links used by various FM broadcast stations in and around Perth, from the files of Alek of Gosnells WA. SUNSHINE FM 957.8 MHz, 96 FM 956.6 MHz and THE EAGLE 956.2 MHz. Alek also provides the 'road' frequencies for several WA media groups - TVW 7 165.460, STW 9 169.960, ABW 2 463.025, radio station 6PR 172.770 and WA NEWS 163.180. Alek would appreciate any information on WA frequencies. His extensive list of WA Police will appear in the next issue of the magazine.

MORE FROM THE APPLE ISLE

A Saiko SC 7000 was used by Danny in Parattah TAS to log all these frequencies, 76.145 police Oatlands, 76.700 police Hobart, 156.675, 156.800 Hobart Port control, 77.540 Main Roads Hobart, 77.615 Main Roads Launceston, 77.030 Hobart City Council, 77.465, 78.010 National Parks, 77.585 Oatlands and Parattah Fire Service, 80.280 Telecom and finally SES 76.375.

THE 'INSIDE INFO'

David in Bathurst NSW would like to know the frequencies used by Corrective Services at the new Lithgow Gaol, as well as other frequencies for the Bathurst area. The NSW Corrective Services Department has three frequencies, 78.850 MHz is used for general transport, 69.525 is a tower to tower frequency, as well as paging within a complex. For internal investigations and security escorts 470.300 MHz is used. The following Bathurst numbers were supplied by P.J. of Bathurst. Bathurst City Council 74.240, ambulance 76.745, 76.670, fire brigade 78.040, police 83.760, Telecom 158.530, Bathurst Taxi 70.880, Southern Mitchell Electricity 83.400, SES 168.820, 168.850.

SCANNER MODS AND PROJECTS

This mod is for the popular Realistic PRO 2021 200 channel mobile/base scanner. Anyone who owns one will know it is a bit slow when scanning or searching. By following these instructions the speed can be boosted from seven channels per second to 11 ch/sec. 1.Remove all power supplies from the radio including the 9V battery from the memory backup. 2.Remove both the upper and lower cases. 3.Locate resistor R 147 behind the LCD display. 4.Unsolder the metal shield on the micro processor unit (from here on in proceed with EXTREME caution).5.Remove R 147 and replace with a 15 K ohm resistor. 6.Reassemble and reprogram scanner.

Own an AM only shortwave radio? Like to use it to resolve SSB signals? Compliments of Silicon Chip magazine I have copies of a simple oscillator circuit that allows you to receive SSB signals on AM only sets. If you would like a copy of the project a stamped self addressed envelope to the column address will secure one.

One of the biggest problems with ni-cad batteries is their habit of developing a memory or certain charge level then going flat at the wrong time. To remove the memory it is necessary to completely discharge the cell then recharge to full. The question is how do you discharge the battery quickly? For around two dollars and the application of Ohms Law you can build a simple device that will flatten a ni-cad in around 10 minutes. Simply journey into your nearest Tandy store and pick up a .47 ohm 5W resistor for 99 cents and single AA size battery holder also for 99 cents. Connect one lead of the resistor to the positive side of the holder and the other lead to the negative side, insert a battery and wait. In approximately 10 minutes you'll have a flat battery.

PROPAGATION

January 1991 was to be the date when allocation within the VHF mid and high bands were to follow international standards and convert to 12.5 kHz spacing as opposed to the 15 kHz currently found in Australia. The problem is that the person in charge of frequency allocations in DoTaC has not been informed. When spoken to by someone in the know, he indicated that it was an executive decision that could take 10 or more years to implement.

ESG, producers of the ESG frequency guides have added another retail outlet to their existing network. PowerBand Communications 289 Nepean Hwy Cheltenham VIC now stock supplies of the ESG guides. Ken Reynolds, the man behind PowerBand told me he has books for each state. He stated that only the frequency and alphabetical user will be kept, however if a customer required the alphabetical X site he would obtain it for them. PowerBand join ranks with Capin Comms in Brisbane and Sydney, Jensens of Adelaide, SPR Brisbane and of course ESG themselves as outlets for the guides.

Uniden is currently developing a wide-band scanner. Known as the BC8200XLT, it will incorporate the frequencies 200-400 MHz. The two hundred channel scanner is expected to be on the market around August this year. Also from Bearcat is the BC855XLT, a budget scanner with 800 MHz added. Will we see either in Australia?

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With two new base station models about to be launched we're overstocked on our famous PB-900 UHF BASE ANTENNAS.

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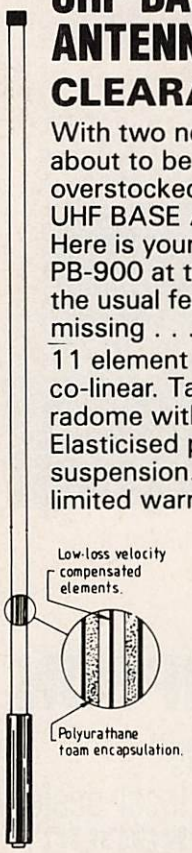

While they last . . .

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We keep all current models in stock at all times. If we can't supply the model you want when you want it . . .it's because we can't get it!

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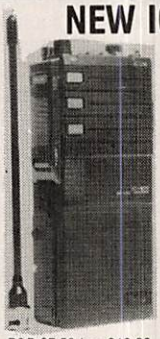
THE ULTIMATE 27MHz MOBILE WHIP

Always in stock . . . the legendary 'Smokey and the Bandit' 9 foot stainless steel whip with heavy duty spring and adjustable ball mount assembly.

Whip **$49** Spring **$33**
Ball mount **$24** **$15 P&P**

NEW ICOM IC-40G



The UHF CB portable you have been waiting for...

- ★ 5 watt output
- ★ 3channel scan
- ★ 10 memories
- ★ Illuminated LCD display
- ★ operates direct off 13.8Vdc
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Limited Stock Available

We keep in stock a full range of ICOM accessories to suit your IC-40 or IC-40G transceiver including:- Battery packs — BP-3, BP-2, BP-4, BP-5, BP-7, BP-8, BP-70. Headsets HS-10 and HS-10SB — HS-51, VOX/PTT/TOT Speaker microphones HM-46 and HM-46L — High performance antennas — Car chargers and converters and drop-in fast battery chargers.

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ICOM offers some of the most exciting scanning and general communications receivers and transceivers available in the world today.

IC-R72 Communications receiver 0.1MHz to 30MHz 99 mems scan AM/SSB 240 Volt 12 Volt

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IC-725 Transceiver — When you're ready to move up to the big time!!

FULL RANGE OF UNIDEN CB RADIOS AND SCANNING RECEIVERS

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OPEN 6 DAYS

TRADING HOURS:
Monday to Friday
9.30am to 5.30pm
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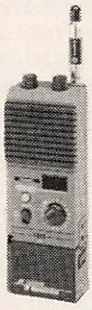
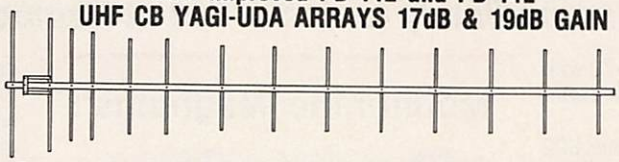
40 Channel AM Portable.



3 Power Levels
Full Legal Power
LED Channel Display
Battery Saver Circuit

$119 plus $10 P&P

New improved PB-11E and PB-14E
UHF CB YAGI-UDA ARRAYS 17dB & 19dB GAIN



Kits are now more than 90% pre-assembled — all you need to do is attach the matching network. All amounting hardware is stainless steel for reliable, corrosion free operation.

PB-11E $75 plus P&P $15 PB-14E $99 plus P&P $20 (Insurance optional $6)

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Mobile from $895
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Due to the present economic climate and the resulting market pressures we find it impossible to offer you a stable pricing structure because on some product lines our buying prices fluctuate wildly from day to day. So, before you decide that we don't carry a product line or offer you the best price, give us a ring for a daily updated, competitive price.

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Uncompromised quality and performance programmable UHF CB Excellence

Enquire about KG-107 commercial and KG-109 series real 5 watt portables

THIS MONTH $660 plus $15 P&P

NEW NEW NEW

THE LO-LOADER

is a base loaded, stainless steel 27MHz antenna with a replaceable whip top. The unit is pretuned and is excellent for use on magnetic bases and in situations where fibreglass whips are easily damaged. Fits standard 5/16 mobile mount.

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PROFESSIONAL GRADE 27MHz MOBILE WHIPS

Pretuned, Braided mobile antennas covered with long life Polyolephin plastic sheath. Top loaded, fibreglass.

Three sizes: 60cm — $32
90cm — $35
130cm — $40

Life expectancy — 5 years plus

PB-60 UHF 'SYSTEM' ANTENNA

The complete PB-60 System including new high reliabilty mount, screw-on weatherproof mount cap, 6dB whiptop and half wave unity gain whiptop.

Outperforms most similar style antennas including a popular 'so called' 9dB unit

$59
the lot.
P&P $7.50
BLACK OR WHITE

GME ELECTROPHONE CB TRANSCEIVERS

We keep all models in stock at all times. If we haven't got the model you want when you want it . . .it's because we can't get it!

MAIL ORDER FORM

Send to **POWER BAND COMMUNICATIONS**
1289 Nepean Highway, Cheltenham 3192

Please rush me the following item/s.

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NOTE:—
Please include phone number so we can advise of any difficulty with processing your order. Australia Post will not accept some large items and alternate transport must be arranged. P.O. Box & R.S.D. etc. delivery addresses are not acceptable to private freight companies.

I enclose Cheque/Money Order
Please debit my Credit Card VISA ☐ BANKCARD ☐
MASTERCARD ☐ Please send goods COD ☐
ALL Orders must include phone number for confirmation.

Phone ( ).....

Signature .....

Expiry Date.....

Name.....

Address.....

.....P/code .....

"610, this is 621. We request 10-78 with a signal 58 Alpha adjacent to the Rainbow."

"Copy that. Units 617, 619 and 622 proceed immediately to assist 621 at Rainbow".

"610, this is 621. We request 10-78 with a signal 58 alpha adjacent to the Rainbow."

"Copy that. Units 617, 619 and 622 proceed immediately to assist 621 at Rainbow".

That was just a slice of conversation emanating from the handheld transceivers of a very disciplined and thoroughly intriguing operation. From where did it originate? Maybe it's from America, where they just love those codes. Perhaps some US police force on a stakeout? Well the answer is "no" to both questions! That traffic you just 'monitored' was from the Australia's Wonderland amusement park in Sydney, and related to a situation near the Hanna-Barbera "Rainbow" ride.

It's 8pm on a Friday night, and while police radio VKG has yet to warm up there's plenty happening on the security channels just a few megahertz away.

On 463.700 you'll hear "Unit 5-7", Checkmate Security's station at Sydney's Imperial Arcade, request radio permission to speak directly with car MIKE-5. Over on 474.625 there's a special team from Lyonswood Investigations carrying out high-level surveillance which rivals even the most enthralling undercover police operations!

If You Need A Change...

Even the most fanatical monitors and police radio devotees like to stray a mite into new scanning territories. But being primarily into police radio, you'll still wish to enjoy the sort of excitement of the police bands. One service likely to provide the action you require is the security and private investigative industry.

In NSW, this industry has recently been rationalised to upgrade and standardise licensing and qualifications. All would-be security officers and guards must now attend police-approved training courses. No longer can a budding hopeful PI with little else but enthusiasm hang a shingle outside his house, call himself a "private investigator" and go into business. He must now attend a TAFE college and complete a full-time course of study. And with this new professionalism comes a more disciplined and organised attitude to radio communications.

The term 'security guard' has replaced 'nightwatchman', an outmoded label considering that security work now involves as much or more daytime activity as takes

Monitor the 'Magnums'!

Scanning the Security Services

There's plenty of action on security and private investigation bands reports Bob Lopaka - and he's got frequencies and codes to prove it!

place in the hours of darkness. There's armored car-crew duty, guarding buildings or 'static premises' and mobile patrols of homes and offices. There is also around-the-clock monitoring of a wide variety of alarm systems, from simple fire detection and alerting systems to alarms that indicate armed hold-up, duress and break-ins.

Alarming Listening

Many security companies operate their own alarm-response consoles allied to their radio network. These consoles are connected to the protected premises on dedicated telephone lines. When the alarm activates, the security firm's base operator will monitor the condition and then contacts NSW police radio VKG on either a dedicated 'tie-line' (used by many accredited companies) or using the ordinary landline telephone. VKG then dispatches a local patrol to investigate.

Meanwhile, the security radio operator will calls their own mobile patrol for the area on the company's two-way frequency and send a security officer with the keys to the premises.

On arrival at the site the police will meet up with the security officer, who remains with them while they carry out an 'external check' of the premises. If there is any cause to believe that 'a person or persons unknown' may actually be inside, the keys will be used and the police will very gingerly commence a search of the interior - with their own personal safety very much in mind at all times. This is a particularly dangerous aspect of police work as it is very easy for an offender in a darkened room to see police officers entering through a moonlit doorway much more so than it is for the police to see the offender. Countless officers have been shot during these routine internal checks on buildings, so most NSW police will draw their pistols (standard issue .38 calibre Smith & Wesson revolvers) and keep them at the ready during such potentially dangerous situations. In fact, many security officers attending these calls have arrived prior to police and have walked in unexpectedly on a large scale break-enter-and-steal. Occasionally shots have been fired by armed security guards in order to protect themselves and the alert monitor can hear the guard calling for urgent assistance as fire is exchanged. Yes, scanning the security services does have it's moments!

Bodyguards And Crowd Control

Other security guard functions fall into the category of bodyguard, relating to personal and executive protection or that of an executive's family, a market which is really widening at the moment. And then there is crowd control, which spans a wide variety of events and locations. You could listen to guards at shopping centres holding concerts and celebrity shows, or the passenger lounge of a major airline where it is necessary to check every intending passenger prior to boarding. The Gulf War has made this role particularly important to our society, with the increased threat of global terrorism, and most TV and radio stations have also posted additional guards.

More and more organisations are employing their own security staff, both private and government bodies. Officers of the NSW Premiers' Department situated in Sydney's State Office Block and operating on 463.575 MHz, are responsible for employee and visitor access security, premises and perimeter security, theft and loss prevention, fire fighting and first aid, occupational health and safety and also first aid. When unusual events occur, when people are in

ured on premises, then security officers ecome the 'front line'.

Private Investigators

Private investigators in NSW carry out wide range of independent investigaons: including personal background hecks, personal injury fraud from motor ehicle or industrial accidents, theft, rson, witness-reliability and general riminal investigation on behalf of olicitors, barristers and sometimes corporations. Then, there is location and ecovery of stolen or 'lost' property; duty s specialised plain-clothes couriers carying confidential documents and inormation; plus all facets of electronic ountermeasures, commonly known as earches or 'sweeps' to detect and eutralise electronic listening devices or ugs'. Missing person inquiries account or a large amount of the time in the field pent by private investigators, in parcular those looking for runaway children.

Husbands and wives check up on their rrant spouses by hiring PI's to shadow or dog' them until they find out why they are pending long hours away from home, hat they are doing and who they are oing it with. Divorce work was once the read-and-butter of private eyes, but the ants fell out of that work with the gradual introduction of more sensible laws relating to divorce and family law.

Investigators in NSW occasionally carry firearms for personal protection, but in reality these pistols are very low-profile and last-resort tools in a PI's bag of tricks. Their most useful equipment is that the modern surveillance operative - binoculars, 35 mm SLR cameras and more often video camcorders, voice-actuated cassette recorders, cellular telephones, and VHF/UHF transceivers (mostly portables). Most PI work involves a great deal of surveillance, and without dedicated and painstaking work expertly carried out, an investigator would learn little more than the name of their target!

The image of private investigators popularised in film and TV - the 'Magnum' look - just doesn't happen in real life. All those fast cars and action doesn't accurately reflect the protracted and tedious nature of the work that PI's must perform. Surveillance shifts frequently stretch to 12 hours or more, with the operative stuck in a hot and stuffy van waiting to obtain vital photographic evidence of their target. There is little time or opportunity to eat, drink or attend to calls of nature. And without the backup and manpower of the police, surveillances which should employ ten operatives are frequently handled by a single person, 'one-out' in their jargon (a phrase itself borrowed from the police). As a result, surveillance operatives frequently have their cover blown and the company must then pull an agent off another inquiry and have him take over the inquiry. This situation is often highly impractical and expensive.

High-Tech Tools Of Trade

Frequently, a PI seeking employment with a security company must own all of the following: a late model van suitable for surveillance; a cellular telephone, radio transceiver and alpha-numeric pager; plus still and video cameras, lenses and filters. Add to this a working knowledge of photography electronic listening devices and countermeasures... that's a tall and expensive order. Most prospective agents set themselves up as a shelf company so they can contract their own services out to the larger organisation. Motivation is thus much higher, with greater rewards for effort and results.

DoTaC rarely grants exclusive radio frequencies to PI's, so operatives often have to share their channels with half a dozen or more business organisations. Given the number of 'unauthorised ears' on such frequencies, surveillance jobs are difficult to conduct and so, unbelievably, many

foot and vehicular operations are conducted using handheld and mobile cellular telephones. A number of the larger companies also use Motorola's 800 MHz trunking system.

PI's vehemently deny the use of illegal electronic listening devices or LD's, which are basically low power wireless microphones operating within the bands of 49-50, 150-152 and 910-960 MHz mostly using wideband FM. However, my information (from a private eye who asked not to be identified) is that the active and everyday use of LD's is common practice. "The gain is worth the pain", he says. "LD's cut short lengthy inquiries and reduce our overheads and on-going operational costs. Why spend four days carrying out surveillance on a target just to find out what can be learnt in four hours of monitoring an LD?"

So if you're after a change of listening fare, but wish to keep up the excitement, try scanning the security industry - you can start with this list of NSW services.

(Members of the security industry were understandably hesitant to become involved in this article, although some individual officers and PI's did assist me very enthusiastically, albeit anonymously. "Thank you" to these people, they know who they are - BL).

AUSTRALIA'S WONDERLAND SECURITY RADIO CODES

10-3 STOP TRANSMISSION
10-4 MESSAGE RECEIVED
10-5 AUTHORISING IN-PARK PAGING
10-7 OUT OF SERVICE
10-8 IN SERVICE
10-9 REPEAT
10-10 NEGATIVE
10-12 STOP/STANDBY
10-15 DOMESTIC TROUBLE
10-19 RETURN TO
10-20 WHAT IS YOUR LOCATION?
10-21 CALL BY TELEPHONE
10-22 PARENT REPORTING CHILD LOST (ALPHA)
10-22 SECURITY REPORT CHILD FOUND (BRAVO)
10-23 POLICE REQUIRED ROUTINE (ALPHA)
10-23 POLICE REQUIRED URGENT (BRAVO)
10-24 ASSIGNMENT
10-69 GOOD LOOKING FEMALE
10-78 NEED ASSISTANCE
10-99 EMERGENCY

Signal Numbers

28 VEHICLE REGISTRATION INFO
30 IMPROPER USE OF RADIO
35 CONFIDENTIAL USE OF INFO
38 INVESTIGATION
44 GO TO CASH CONTROL
45 CASH TRUCK ON/OFF SITE
50 MOTOR VEHICLE ACCIDENT
51 FIRST AID REQUEST MINOR/MAJOR
52 AMBULANCE REQUIRED
53 FIRE BRIGADE/BUSHFIRE BRIGADE REQUIRED
54 SECURITY OFFICER NEEDED
55 FIRE
56 SHOPLIFTING
57 HOLDUP
58 ALCOHOL/DRUG PROBLEM
59 FIGHT
60 MAJOR RIDE OR OTHER ACCIDENT

Monitor the 'Magnums'!

Scanning the Security Services

There's plenty of action on security and private investigation bands reports Bob Lopaka - and he's got frequencies and codes to prove it!

CONTINUED

61 RIDE DOWN
62 RIDE EVACUATION
63 GUEST COMPLAINT
90 NSW POLICE REQUIRED
93 SET UP BLOCK OFF POINT
94 THEFT SUSPECT
95 VIOLENT/DANGEROUS SUSPECT
96 PARK EVACUATION
97 SEVERE WEATHER ALERT
99 V.I.P. IN THEME PARK
1000 BOMB THREAT

Callsigns

100 ADMINISTRATION
300 MARKETING/GROUP SALES/PROMOTIONS
400 RESALE /FOOD MANAGERS/MERCHANDISING
500 OPERATIONS/ADMISSIONS/PARKING/RIDES/THE BEACH//ENTERTAINMENT
600 LOSS PREVENTION/SECURITY
700 FACILITIES/UTILITIES/MAINTENANCE
800 CONSTRUCTION
900 WILDLIFE PARK

CHECKMATE PROTECTIVE SERVICES SYDNEY

Management vehicles: 'Mike 1" through to 'Mike 12'

Mobile patrols:'Mobile 1', 'Mobile 2'

Static guard posts:

CONTROL SYDNEY COVE
UNIT-1 SYDNEY COVE ROVER
UNIT 1-1 SYDNEY COVE LOCK-UP
UNIT-2 AMP CENTRE
UNIT 2-1 AMP CENTRE ROVER
UNIT 2-3 AMP CENTRE CAR PARK
UNIT-3 GOLDFIELDS HOUSE
UNIT 3-1 GOLDFIELDS HOUSE LOCK-UP
UNIT-4 GROSVENOR PLACE
UNIT 4-1 GROSVENOR ROVER-1
UNIT 4-2 GROSVENOR ROVER-2
UNIT 4-3 GROSVENOR PLACE LOBBY
UNIT 4-4 GROSVENOR PLACE CAR PARK
UNIT-5 CENTREPOINT
UNIT 5-1 CENTREPOINT ROVER
UNIT 5-2 CENTREPOINT RETAIL
UNIT 5-3 CENTREPOINT RETAIL
UNIT 5-4 CENTREPOINT RETAIL
UNIT 5-5 CENTREPOINT DOCK
UNIT 5-6 CENTREPOINT DOCK, PITT ST.
UNIT 5-7 IMPERIAL ARCADE
UNIT 5-8 CENTREPOINT ROOF
UNIT-6 ZENITH CENTRE
UNIT 6-1 ZENITH CENTRE ROVER
UNIT-7 CAPITA
UNIT 7-1 CAPITA ROVER
UNIT 7-2 CAPITA FOYER
UNIT-8 MAYFAIR HOUSE
UNIT-9 DATA CENTRE BONDI
UNIT 9-1 DATA CENTRE ROVER
UNIT-10 EDGECLIFF
UNIT-11 O'CONNELL HOUSE
UNIT-12 CAPITAL CENTRE
UNIT 12-1 CAPITAL CENTRE ARCADE
UNIT-13 ZENITH CENTRE-TAXATION
UNIT 13-1 ZENITH CENTRE-TAXATION
UNIT-14 PACIFIC SECURE SYSTEMS
UNIT-15 BONDI JUNCTION PLAZA
UNIT 15-1 BONDI JUNC.PL. ROVER-1
UNIT 15-2 BONDI JUNC.PL. LOCK-UP
UNIT-16 NATIONAL BANK HOUSE
UNIT 16-1 NATIONAL BK.HSE. ROVER
UNIT 16-2 NATIONAL-MITSUBISHI BK
UNIT-17 MMI BUILDING
UNIT-18 AMP GROSVENOR PLACE
UNIT-19 NO ALLOCATION CURRENT
UNIT-20 NO ALLOCATION CURRENT
UNIT-21 NO ALLOCATION CURRENT
UNIT-22 LA TERRAZZA
UNIT-23 ROYAL MOTOR YACHT CLUB
UNIT-24 STATE BANK
UNIT-25 BARCLAYS HOUSE
UNIT-26 NO ALLOCATION CURRENT
UNIT-27 NO ALLOCATION CURRENT
UNIT-28 GOLDFIELDS HOUSE
UNIT-29 LUNCH RELIEF & TELECOM
UNIT-30 PHILIPS
UNIT-31 ST GEORGE BUILDING SOCIETY
UNIT-32 AUSTRALIA SQUARE
UNIT-33 CITY TAX OFFICE
UNIT-34 MACQUARIE CENTRE
UNIT-35 SYDNEY FUTURES EXCHANGE

NSW Security Services Bob Lopaka's Hit List

70.880 PARAMOUNT SECURITY, CARDIFF
71.240 GP SECURITY, TIGHES HILL
72.740 SYDNEY NIGHT PATROL (SNP SECURITY), EASTWOOD
72.785 WORMALD SECURITY, SUGARLOAF
73.520 WEBSTER'S INVESTIGATIONS, ARTARMON
73.520 ORANGE NIGHT PATROL, ORANGE
74.180 MUSWELLBROOK SECURITY, MUSWELLBROOK
74.330 SECS SECURITY, CARDIFF
74.360 DUBBO SECURITY SERVICE, DUBBO
75.540 SWAN SECURITY, GAN GAN
75.620 TYRELL SECURITY, LEETON
75.635 ROWLAND'S PRIVATE INVESTIGATIONS, WOLLONGONG
75.710 WESTERN SECURITY, GREYSTANES
75.860 TAREE SECURITY SERVICE, TAREE
76.055 COMMUNITY SECURITY
76.100 H&H SECURITY, CLOVELLY
76.115 LAKES SECURITY, MOUNT ELLIOT
76.145 NORTHERN LAKES SECURITY, BUDGEWOI
76.160 SOUTHSIDE INVESTIGATIONS, PENSHURST
76.160 CHUBB NEW ENGLAND SECURITY, WEST TAMWORTH
76.880 PINKERTON'S INVESTIGATIONS, CONCORD WEST
76.910 ARMAGUARD - ORANGE, CROWS NEST, GRAFTON
78.655 COMMERCIAL SURVEILLANCE, SUGARLOAF
78.760 VAULT & SAFE MASTERS
79.240 ARMY PROVOSTS, MILITARY POLICE & SECURITY
79.420 ARMY PROVOSTS, MILITARY POLICE & SECURITY
79.630 ARMAGUARD, TAMWORTH

1.060 INLAND SECURITY, WAGGA
1.420 BATHURST NIGHT PATROL, BATHURST
4.270 JSG SECURITY, PENRITH
4.330 MACQUARIE SECURITY, BATHURST
4.375 TWEED SAFEGUARD SECURITY, WEED HEADS
4.660 ABLE INVESTIGATIONS, WOOLLAHRA
4.720 TRANSURETY ARMOURED CARS, SYDEY
57.750 WATCHDOG SECURITY, PORT MACUARIE
57.855 WEBSTERS' SECURITY, SUGARLOAF
57.930 TAREE SECURITY SERVICES, TAREE
58.260 WORMALD SECURITY CONTROLS, ORT KEMBLA
58.395 MOUNT WARRIGAL SECURITY, WARIGAL MOUNTAIN
58.410 SYDNEY NIGHT PATROL (SNP), SUGAROAF
58.935 BRAMBLES SECURITY, PORT KEMBLA
59.070 DENALLEN INVESTIGATIONS, PETERHAM
59.220 WORMALD SECURITY, ARMIDALE
59.310 STAR INVESTIGATIONS, INVERELL
60.585 HUNTER SECURITY SERVICE, WOLONGONG
62.100 STRATA SECURITY SERVICE, WOLLONGONG
62.100 WOODVILLE SECURITY, WETHERILL ARK
62.820 SCOTT'S INVESTIGATIONS, NEUTRAL AY
63.330 LOHEVU INVESTIGATIONS, GIRAWEEN
64.320 TUMUT SECURITY SERVICE, TUMUT
64.410 METROPOLITAN SECURITY SERVICES MSS), SYDNEY
64.710 PAUL-TEC PTY LTD, PENDLE HILL
64.890 G&B SECURITY, MERRYLANDS
65.070 SENTINEL SECURITY, CROYDON PARK
65.070 LOWE SECURITY, GRAFTON
65.475 PICTON SECURITY, TAHMOOR
65.790 RODEN SECURITY, BANKSTOWN
66.690 PORT MACQUARIE SECURITY, PORT IACQUARIE
66.840 COFFS HARBOUR SECURITY, COFFS ARBOUR
67.080 METROPOLITAN SECURITY SERVICES MSS), LISMORE
67.740 NAMBUCCA DISTRICT SECURITY, IACKSVILLE
67.740 RAPID INVESTIGATION, QUAKERS HILL
67.740 ALL SUBURBS SECURITY, ROUSE HILL
67.890 METROPOLITAN SECURITY SERVICES MSS), CARDIFF
68.055 NEWCASTLE SECURITY, NEWCASTLE
68.100 SECURITY SYSTEMS SERVICE, TUNURRY
68.490 METROPOLITAN SECURITY SERVICES MSS), ALBURY
69.630 ABBCO HOME SECURITY, BONDI JUNCION
69.690 MOUNTAIN WIDE SECURITY, KATOOMBA
69.885 WOLLONGONG STEWARDS SECURITY, VOLLONGONG
70.430 MILKEN SECURITY, BURWOOD
70.670 PD SECURITY, SYDNEY
72.080 CARDINAL SECURITY, MANLY
73.160 SYDNEY SECURITY & INVESTIGAIONS, PUNCHBOWL
13.850 BRAMBLES SECURITY, SYDNEY
57.325 WESTCO SECURITY, EASTWOOD
60.050 COMMERCIAL SURVEILLANCE
60.150 NEWCASTLE SECURITY, NEWCASTLE
61.025 WORMALD SECURITY, NEWCASTLE
61.075 WEBSTER'S SECURITY, NEWCASTLE
62.925 SYDNEY UNIVERSITY SECURITY, SYDEY
62.975 LAW COURTS SECURITY, SYDNEY
63.375 ALLTRONICS SECURITY, PROSPECT
63.575 STATE OFFICE BLOCK SECURITY, SYDEY
63.700 CHECKMATE PROTECTIVE SERVICES, YDNEY
63.800 WAHAB SECURITY, GREENACRE
64.025 QANTAS SECURITY, SYDNEY
64.075 MAYNE NICKLESS, LIVERPOOL
464.100 MAYNE NICKLESS, SYDNEY
465.275 NEPEAN ALARMS & NIGHT PATROL, PROSPECT
465.400 BONDI JUNCTION SECURITY, SYDNEY
465.450 ST GEORGE HOSPITAL SECURITY, SYDNEY
465.525 WOLLONGONG HOSPITAL SECURITY, WOLLONGONG
465.750 UNIQUE SECURITY, PENNANT HILLS
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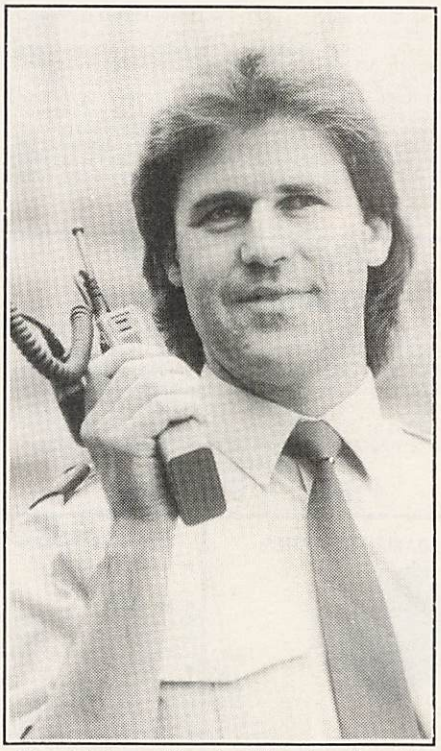
472.300 DARLING HARBOUR SECURITY, SYDNEY



He might be smiling, but, it's a tough world out there

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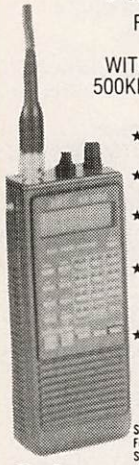
AUSTRALIA WIDE SCANNERS GALORE

New from A.O.R. Ltd

EXTENDED FREQUENCY AR1000



FROM HF TO MICROWAVE
CONTINUOUS
WITH 1000 MEMORY CHANNELS
500KHz-1.3GHz, AM-FM (N)-FM (W)

FEATURES:

- ★ Ultra Wide Frequency Coverage: AR1000 covers 500KHz up to 1300MHz without having a gap in the band.
- ★ Multiple programmable search limits: 10 different search bands can be programmable to find unknown active frequencies very easily.
- ★ CPU controlled: A powerful microprocessor controls variety of function modes, frequency selections, memory channels and others to ensure simple yet versatile monitoring performance.
- ★ Multiple power sources: AR1000 can be operated from AA size x 4pcs Ni-Cad batteries (standard), optional AA size 4 pcs of dry cell batteries. Mobile charger and AC/DC charger are standard accessories.
- ★ Permanent memory back-up: EEPROM (Electrically Erasable Programmable Read Only Memory) maintains the programmed frequencies and function modes without having memory back-up battery which protects you from the disaster of losing 1000 preprogrammed channels' information even at the time of battery failure.

SPECIFICATION

Frequency Coverage	500KHz-1300MHz
Sensitivity	N.FM 0.45V @ 12dB SINAD W.FM 1.0uV @ 12dB SINAD AM 1.0uV @ 10dB S/N
Scanning Speed	Minimum 20 channels/second
Audio output	130mW into 8ohms 10% THD
Size	70(W) x 170(H) x 39(D) mm
Weight	370 grams without antenna

Only $545

WHY PAY MORE FOR LESS

AR3000 FROM LF TO MICROWAVE

100KHz 2036 MHz CONTINUOUS
LF-MF-HF-VHF-UHF-SHF all mode AM—SSB-FM monitoring and surveillance

PROFESSIONAL RECEIVER

STOCKS AVAILABLE

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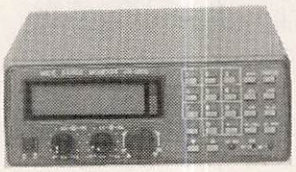
The AR 3000 now extends your listening horizons further than anyone believed possible. It covers the entire spectrum. Frequency is from 100 KHz to 2036MHz with NO GAPS. It is a true multi mode receiver covering WFM, NFM, AM, SSB, CW, FSK & AFSK. Frequency steps are programmable from 50 Hz to 100 KHz (so that you can step in 9 KHz on MW or 1 KHz on UHF). The 400 memory channels are in 4 banks of 100 channels. Search speed is 20 channels per second for easy searching. An accessory socket is provided so that a tape recorder can be operated remotely. The built in clock/timer means you should never miss a broadcast schedule again. For those who wish to control the receiver from a computer a built in RS232 is provided and operating protocols provided in the handbook.

NEW AR 2500 SCANNER

All mode-AM, SSB, FM, 500KHz to 1500MHz, 1984 memories



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AX-700E SPECTRUM SCANNER AM-FM (N) — FM (W)

FEATURES:

- Large size spectrum display
- Fast frequency selection
- 100 Ch memory
- Multiple search functions
- Continuous freq coverage from 50-905 MHz
- Multi mode AM, FM W, FM N
- Many other features

THIS UNIQUE RECEIVER IS YOURS FOR ONLY **$950**

WRITE OR PHONE FOR COLOUR BROCHURE

JUST ARRIVED!!

YUPITERU **YUPITERU MVT 6000 SCANNING RECEIVER**

Featuring:
AM & N FM modes
Frequency 25 — 550, 800 — 1300MHz. 100 memory channels. ULTRA compact SIZE. Special price

ONLY $639

EMTRON EPS30 POWER SUPPLY

The EXCITING NEW DC Power Supply for PROFESSIONAL, COMMERCIAL and AMATEUR application. EMTRON'S EPS 30 features a unique cross needle volt/amp power meter for continuous monitoring, output of 13.8 volt at 30 amps (50% duty cycle) or 20 amps at 100% duty cycle. Overload, short circuit and temperature as well as over voltage protection is provided.

PRICE — ONLY $499

UNIDEN

UH-077	SUNDOWNNER UHF	..$399
PRO-640E	40ch AM/SSB DELUXE MOBILE	..$339
PRO-5000	40ch AM MOBILE	....$85
AX-144	40ch AM/SSB MOBILE	..$289
WASHINGTON	40 AM/SSB base	..$450
HR-2510	10M ALL MODE TRX, 50 CH MEMORY	..$500
PANTHER	4 AMP PSU POWER SUPPLY	....$89

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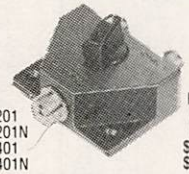

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CX201	$49	$29
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CX401	$159	$99
CX401N	$189	$110

COAXIAL RELAYS IN STOCK

ACCESSORIES

★ Co-ax Cable- RG58	$1 pm
RG213	$3 pm
★ **METERS**	
Revex W560 — 1-6-500MHz	$299
Revex W570 — 1.6-1300MHz	$450
Diamond SX200 1.8 — 200MHz	$169
★ Co-ax Seal	$5 per roll
★ Frequency Registers	$20
★ Base Antennas for 27MHz	from $65
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D707 Active 500KHz-1500MHz	$239
D505 Mobile Active	$199
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EMTRON'S HF SWR METER EP-1

$59 & $7 P&P

Specially designed with PRICE, QUALITY AND ECONOMY IN MIND. Freq range from 3.50MHz. Reads forward and reflected relative power. Ideally suited for amateur and CB services.

EMTRON'S PRECISION CROSS NEEDLE RF EP2000 SWR METER

Yes this new from EMTRON — highly accurate CROSS-NEEDLE SWR & POWER meter, model EP.200 with a freq range from 1.8 MHz and power ranges 20,200 watts, gives instantaneous reading of foward/reverse power and SWR Plus 2 KW.

ONLY $110

NOTE: Some prices may vary due to overseas currency fluctuations.

ICOM

NEW IC-40G
THE UHF CB PORTABLE YOU HAVE BEEN WAITING FOR
SCANNING RECEIVERS
DC TO DAYLIGHT!

ICOM R1 Handheld
ICOM R100 Mobile
ICOM R7000 Mobile/Base
ICOM R7000E Mobile/Base
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PSA 1210-10 amp-12 amp peak	$185
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PSA 123-3amp-4 amp peak	$85

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POWER BAND CORNERS THE MARKET

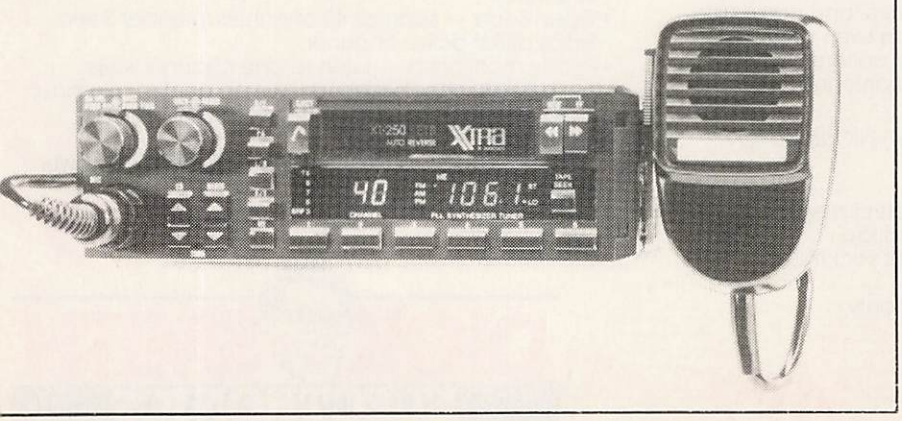
f you're looking for some real bargains, look no further...Power Band has scooped the pool with an AM/FM/Cassette/AM CB and a Saiko SC8000 scanner.

Power Band Communications recently cooped the pool when they managed to et their claws on substantial quantities of vo highly successful products at the right rice; namely the SAIKO SC8000 mobile canner and even better, the highly ought after AUDIOVOX, four speaker ystem AM/FM/CB radio cassette player ombination mobile entertainment sys-em.

By coincidence both products were eviewed in the JAN/FEB 1989 edition of B Action.

To refresh your memory, Russell Bryant aid about the SAIKO 8000, "programming the 50 channel memory is again esigned with the user in mind and oesn't require a complicated series of programming steps. Sensitivity proved excellent, did the image rejection...I can tell you the SC8000 comes with improved noise filtering for mobile use. Seek out the SAIKO. Its ease of operation, value for money ($449 RRP) and features make it a winner." While stocks last, POWER BAND is offering the SAIKO SC8000 for a heavily discounted price of $320 which is well over $120 off recommended price and that includes full factory warranty for 12 months. Interestingly enough, the SC8000 is still one of the few medium priced scanners that covers 27MHz CB with a low band of 26 to 32MHz.

Up top is the SC8000 scanner, normally $449 but only $320 at Power Band while below is the Audiovox XT250...good value at $400 and a bargain at $295.



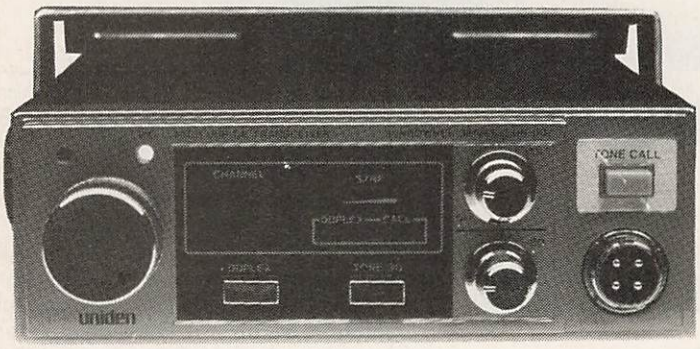
The AUDIOVOX XT-250 combination system is not a compromise as you might expect, it is a full range HI-FI stereo cassette player with an AM receiver and full stereo FM reception for a four speaker system and appropriate faders to boot. All the controls are back lit. Our staff reporter who reviewed the XT-250 said, "The am/fm tuner is quite sensitive and offers electronic tuning with 12 soft touch memories. The receiver also features auto SEEK tuning with a local DX function that allows you to skip weak signals in the SEEK mode. The cassette player is the auto reversing type...the 40 channel CB performs right up with the best AM rigs we have tested....the XT-250 really shines in the PA dept having five times more power than the average CB PA function...

The radio and the CB transceiver operate independently having separate digital displays.

If you only want to listen, the CB receiver works without the microphone being plugged in. The unit offers 'break-in' operation for the CB receiver. For example, you can be cruising the highway grooving to your favorite tape with the CB tuned to channel 8. When a CB signal appears it will 'break-in' over your program to update your highway information. The system usually costs in excess of $400 but POWER BAND is offering them for $295 until stocks are cleared. As an incentive to mail order customers we will ship the first one hundred units free of charge to anywhere in Australia. Credit cards and COD are welcome of course.

For more details contact Power Band Communications on (03) 584 7631 or fax (03) 583 0846. 1289 Nepean Hwy Cheltenham Vic 3192.

UNIDEN UHF EXCELLENCE



UNIDEN SUNDOWNER UHF CBs

The Uniden Sundowner UH-001 & UH-007 UHF CBs are long time favourites because of their incredible durability, reliability and ease of use. They're designed for serious mobile use with all the professional features you could want in a UHF CB. These superb features include duplex switching, tone squelch option, signal strength/Tx output meter (UH-007 only), squelch control and more! PLUS a 2 year Uniden warranty.

Specifications:

Frequency Range:	476.425 to 477.400MHz (40 Channels)
Repeater use:	Ch 1 to ch 8 (TX only)
Carrier Power:	5 Watts
Voltage:	13.8VDC nominal
Current Drain — Receiver:	800mA max.
Transmitter:	1300mA max.
Sensitivity:	0.5uV for 20dB S/N
Audio Output:	3W max.

UH-001 Cat D-1806 **$299**

UH-007 Cat D-1803 **$329**

uniden®

UNIDEN UH-005 HAND-HELD UHF CB

The advanced Uniden Sundowner UH-005 hand-held is ideal for building sites, security work, rural operations... this is 'go anywhere' communications at its best! Features include duplex operation (allowing it to communicate through repeater stations), separate volume and squelch controls, 1.5W output power and top mounted controls for maximum convenience. It comes complete with a high capacity battery pack, charger, whip antenna, belt clip, and carry strap. What's more you can even use it as a base station with an optional power supply and external antenna.

- Long-life (500mA/H) NiCad battery pack
- AC charger
- Back-lit channel selector switch
- Belt clip and carry strap
- Direct 12 volt power socket
- All 40 channels
- Uniden 2 year warranty

Cat D-1807

$499

A Scanning UHF CB For Only $399!

NEW GENERATION UNIDEN UH-077

Featuring —

- Group Scan — select only specific channels to be scanned
- Open Scan — scan all 40 channels in under 3 sec. Stops at first active channel
- Priority monitoring — listen to one channel while periodically checking for activity on another channel
- Status at a glance with colour coded front panel indicators
- With mounting bracket, microphone, and DC power lead
- UNBEATABLE Uniden 2 year warranty!

Cat D-1777 **$399**

DICK SMITH ELECTRONICS

B1136/PB

THE BEST RIGS AT THE BEST PRICES!

DSE SLIMLINE AM CB

- One touch electronic channel tuning
- LED signal strength/power output display
- Built-in noise limiter
- External speaker jack
- Compact size, just 140 x 30 x 130mm!

Cat D-1200

$89.95

Extra Features...Extra Value!

'SUPER LION' AM SSB CB

- Inbuilt SWR/S/RF calibration meter
- Channel 9 direct switch
- Seperate Squelch, Mic gain, RF gain, Clarifier controls
- Bright LED channel display
- PA facility

Cat D-1711

PEARCE-SIMPSON

$199

Special Buy!

PRESIDENT P300 AM/SSB CB

The P300 is a high quality AM/SSB CB that will provide years of reliable operation. Equivalent to the Uniden AX-144, it features:

- Analogue Signal/RF Meter
- Large digital channel display with dimmer control
- Mic Gain and RF Gain control
- Noise Blanker/Noise Limiter
- Instant channel 9 selection
- Clarifier control for easy tuning of SSB
- Uniden 2 year warranty

Cat D-1470

$249

Bring the World Into Your Home!

SANGEAN MULTIBAND RECEIVER

- AM/FM plus Long Wave, Medium Wave & Short Wave (150kHz to 30MHz). A BFO control allows reception of SSB/CW signals.
- Digital display with keypad frequency entry or dial tuning, and 24 hour clock with sleep timer
- Plus a host of other features including 9 station memories and programmable scanning

Cat D-2831

$269

Store Locations

NSW • Albury **21 8399** • Bankstown Square **707 4888** • Blacktown **671 7722** • Brookvale **905 0441** • Bondi **387 1444** • Campbelltown **27 2199** • Chatswood Chase **411 1955** • Chullora **642 8922** • Gore Hill **439 5311** • Gosford **25 0235** • Hornsby **477 6633** • Hurstville **580 8622** • Kotara **56 2092** • Liverpool **600 9888** • Maitland **33 7866** • Miranda **525 2722** • Newcastle **61 1896** • North Ryde **878 3855** • Parramatta **689 2188** • Penrith **32 3400** • Railway Square **211 3777** • Sydney City **267 9111** • Tamworth **66 1711** • Wollongong **28 3800** **ACT** • Belconnen **(06) 253 1785** • Fyshwick **80 4944** **VIC** • Ballarat **31 5433** • Bendigo **43 0388** • Box Hill **890 0699** • Coburg **383 4455** • Dandenong **794 9377** • East Brighton **592 2366** • Essendon **379 7444** • Footscray **689 2055** • Frankston **783 9144** • Geelong **232 711** • Melbourne City 399 Elizabeth St **326 6088** & 246 Bourke St **639 0396** • Richmond **428 1614** • Ringwood **879 5338** • Springvale **547 0522** **QLD** • Brisbane City **229 9377** • Buranda **391 6233** • Cairns **311 515** • Chermside **359 6255** • Redbank **288 5599** • Rockhampton **27 9644** • Southport **32 9033** • Toowoomba **38 4300** • Townsville **72 5722** • Underwood **341 0844** • **SA** • Adelaide City **223 4122** • Beverley **347 1900** • Elizabeth **255 6099** • Enfield **260 6088** • St. Marys **277 8977** **WA** • Cannington **451 8666** • Fremantle **335 9733** • Perth City **481 3261** • Midland **250 1460** • Northbridge **328 6944** **TAS** • Hobart **31 0800** **NT** • Stuart Park **81 1977**

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DICK SMITH ELECTRONICS

31136/PB

David Flynn asks the questions....

WHAT'S A DATABASE AND WHAT CAN IT DO FOR YOU?

Of the many diverse applications you can run on a personal computer, one of the most useful for any radio enthusiast is a database. What is a database?

The index at the front of this magazine is a database - it tells you the title of each article or column, the author and the page on which that article can be found. These three distinct items of data - title, author, page number - are common to every entry in the index and as such you can 'cross reference' between them. Knowing the title of a column - ON-LINE, perhaps - you can see that it is written by Patrick McDonald. Or you may ask "What is the name of Rod Fewster's column?". Look through the names and then read back to realise Rod's column is 'Spectrum Anarchy' (what else?). In fact, there is a fourth level at which the index operates - it groups this issue's contents into Reviews, Columns and Articles. So our magazine index is a database. A very limited one, to be sure, but a database never the less.Let's look at something else which you'll all be familiar with - the glorious Telecom White Pages. The phone directory, as much as your own personal phone book, is another database. It has millions of entries. The primary item - the one around which everything else revolves - is the business name or the surname of the listee, sorted in alphabetical order. After this come any additional names, then an address and lastly the phone number. We all know how to use the phone book and every time we do so we are manipulating a database.

TELEPHONE DIRECTORY IS LIMITED

The only problem is that the White Pages are locked into one style of 'lookup', which is by business or surname. Not much good if you don't know the name but know the street. This is the limitation of written databases - as a rule, they can only provide one path for you to use. There may be indexes, cross-references, but as a rule you can always find a way of getting lost in a written database.

This is where the personal computer came into its own. Businesses have lists of customers, stock, orders placed and received, items and goods available and other miscellaneous info. With a database program on their PC, any business can enter all this information and then retrieve it in almost any shape or form - the customer's name, the last item purchased, date of last sale, product code or even serial number...as many entries as practical.

Wonderful, you say. My heart is filled with joy unbounded for the businessmen of the world. What good does any of this do for me, the radiohead with a bulging folder of frequencies, or a dozen logbooks lining the shelf?

Okay, then. Look at your logbook and recognize the different 'fields' of information for each contact...date, callsign, location, name, frequency, mode, maybe some room for additional comments and a QSL address. Tailor-made for a simple PC database program, don't you think?

THE TWO WAY APPROACH

There are two ways to approach the use of a PC database in your daily loggings. Firstly, it's not a bad do-it-yourself project to make you more familiar with your computer. Most new PCs come with some free software, most often some 'integrated package' which combines word processing, database, spreadsheet, telecommunications and basic graphics. Typical packages range from cheapies such as Quad and Able-1, to mid-range products including PFS, First Choice, Enable and AlphaWorks (all of which are very good). You may even score the leading 'all in one' package, Microsoft Works. With the database capabilities of these programs, you can - with a bit of forethought and patience - construct a custom-built system for entering, storing and retrieving those loggings. I've done it and believe me, I am no programmer.

WHY RE-INVENT THE WHEEL ?

Maybe you want to go all out and make a superlog which does everything. But why re-invent the wheel? There are a number of specialised

og-keeping programs on the market nd the best part of it is that they von't set you back another hundred ollars. They are what is called shareware', software that you use nd evaluate before you buy. If you ke the program, you then send a egistration fee' to the program's uthor.

This is a purely voluntary system nd so we'd be surprised if registered hareware comprised even 10% of ne number of total packages in daily se, So, as an incentive to have you egister, some programs come in neir basic working format, but with a umber of additional features 'locked ut' or even not fitted until you pay ne fee and receive the full-blown pro-ram on disk, or enter a special egistration code' into your existing rogram - a code which unlocks nese features. Shareware registra-on fees are typically $10 to $50, epending on the program.

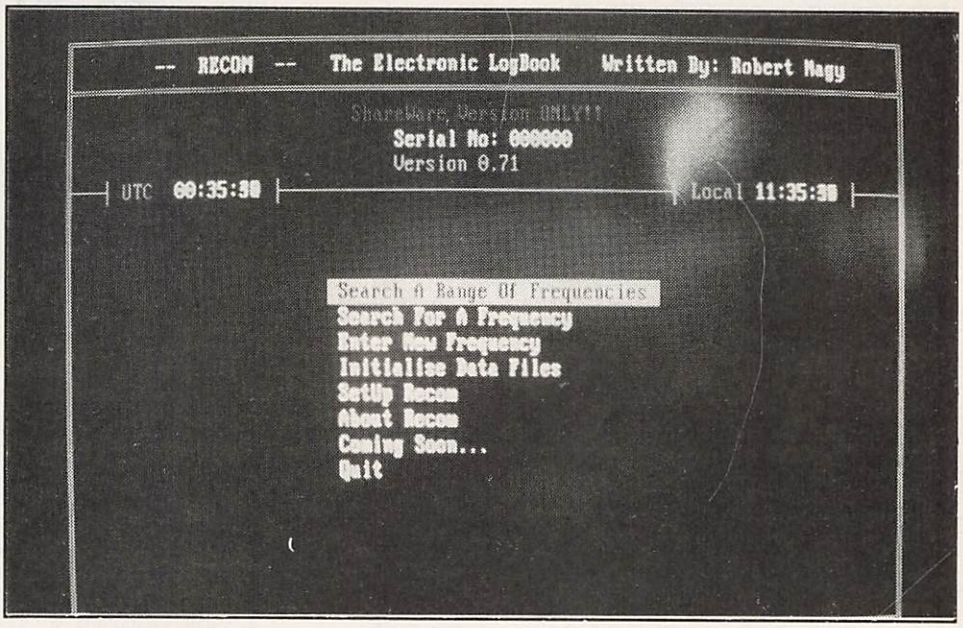
So what's out there? We're about look at three radio-oriented atabase programs designed for the BM-compatible personal computer, y far the most popular PC in the orld. Each of these three programs re 'shareware', ready to download om computer bulletin board sys-ms (BBSs) such as Shortwave ossums and Monitor World and ey may even be on your local oard.

SCANNER FREQUENCY FINDER

The Scanner Frequency Finder is classic example of a dedicated dio database. It records, displays nd cross-references entries for the ervice (police, railways etc.), user ame, frequency, city, county, and ate. In each search there is an ex-llent 'quick jump' facility which sets e SFF looking even as you type. Ex-mple - in the frequency search ode, you can manually scroll rough the list, or just start typing the esired frequency. Let's say you ecide to enter 468.350 MHz. As oon as you enter '4', SFF homes in n the 400 MHz range; when you nter '6', it narrows this to 460 MHz nd so one, immediately as you type. ne same applies for entering the ame of a service, city, county or ate. You can also have reports and ervice entries printed directly from e program.

But the SFF isn't just for scanners. will take any frequency, with up to ur decimal places and can be used r HF utilities and shortwave broad-asters. Although designed for the S market, SFF can easily be dapted for local use. Although you cannot rename the heading of the 'county' listing, you could still use this field to record districts or local areas, or anything else that might be needed. If you wanted to dedicate the database to airband services, you might record the three-letter airport code. The 'state' field only accepts two letters, but you could always indicate a state by it's first letter or even the state numeral.

Services are pre-set in a special list box which appears at the touch of a button. SFF is configured with American services including the FBI and DEA - in fact, it comes chocka with US frequencies - but this is easily altered to local needs. SFF is dead easy to use, even though the 'help' screens are only supplied with the registered version.



Computerised database systems can be invaluable in helping you keep track of what's happening...and where.

The Scanner Frequency Finder is available as SCANNER.ZIP and registration costs US$25; the author is Jay Levine, PO Box 33152, Washington DC 20033, USA.

RECOM - THE ELECTRONIC LOGBOOK

Recom is an Australian product, written by Victorian Robert Nagy. The publicly available shareware version holds back a few features as an incentive to register, but has more than enough to whet your appetite and provide a quite functional and versatile logbook.

Although it can be used for monitoring, Recom's greatest strengths come as a traditional logbook for anyone from the pedantic CBer to a ham chasing the DXCC or other elusive certificates (in fact there are special programs written specifically to log, score, compile and print reports on specific contests, such is the penetration of PCs into the amateur fraternity). UTC and local time always remain at the top of the screen; log entries record callsign, mode, speed (if CW) and SINPO code, with automatic insertion of time and date. There is also a 'keyword' field to speed searches. Many of the Recom defaults can be tailored to your preferences and the PC's F1 key calls up a concise array of 'help' screens.

Recom is presently at version 0.71, with Nagy promising bigger and better to come. Future shareware editions will include extended help and the ability to print transmission reports, while the registered users can look forward to computer control of their equipment via the RS232 port.

Recom is listed as RECOM071.ZIP; registration costs a very affordable $10, through Robert Nagy, Riverside Computer Products, PO Box 142, Glenhuntly, Vic 3163. If you don't have access to a modem you could always write to Robert and request a copy of Recom, but please send a pre-formatted blank disk and return postage. Nagy is presently offering a free, fully-registered version to the first person to report any new bugs found in the program.

OMEGA - THE BIG ONE !

Omega is the world-beating Australian software that you may have read mention of in previous editions of CBA. Sydney radio and computer expert Rick Jones has crafted a program of exceptional promise and power.

(continued over page...)

POWER BAND COMMUNICATIONS

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Designed for mobile or base station operation
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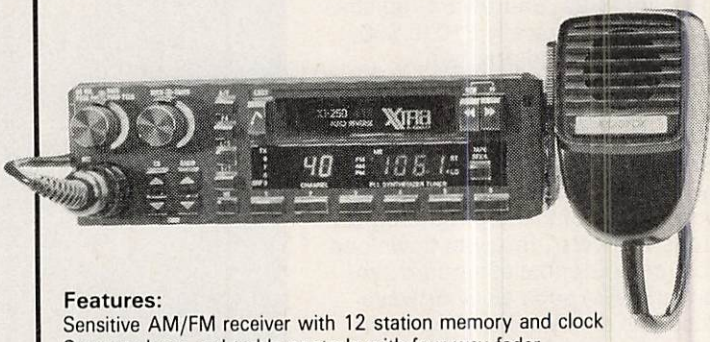
Dimensions — 152mm x 58mm x 220mm — Weight 1.05kg
At this price we reckon the SC 8000 has to be the best mobile/base scanner value in Australia today.

$320.00

AUDIOVOX XT-250 AM-FM-CB RADIO HI-FI CASSETTE



Features:
Sensitive AM/FM receiver with 12 station memory and clock
Separate bass and treble controls with four-way fader
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Full break-in facility for CB operation
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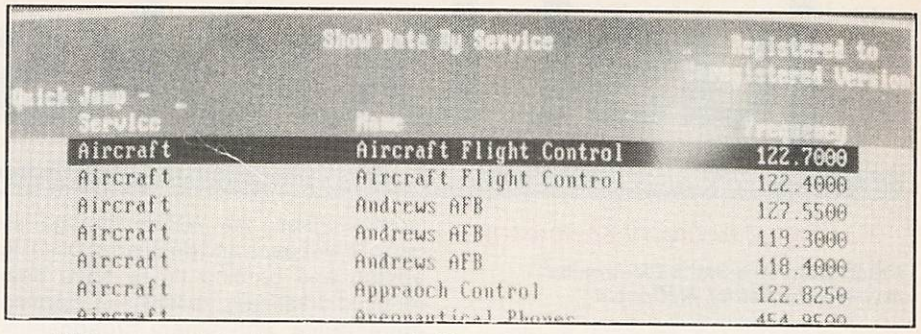
(continued from page 27...)

Each Omega 'record' is a screen jam-packed with fields - separate listings of transmit and receive frequency, service identifiers (name, callsign, category), technical info (mode, power, antenna) and geographical entries for nation, province, location, latitude/longitude, map reference and even orbit, if you're into satellite reception.Obviously all this detail isn't the sort of thing that the average user will get right into, which is the larger part of the Omega project. It is intended that Omega will eventually become the repository of hundreds of thousands of frequency listings, almost a ready-made monitoring guide. Rick has even made provision for the program to play,through the PC speaker, the CW ident and sign-on jingle of shortwave broadcasters!

In the stand-alone form, Omega is an electronic frequency register; but as part of the computer BBS network, it will allow any PC user to make on-line enquiries, download the latest additions and upload your own new entries.

At present, this is the main focus of the Omega development.

Although the SFF and Recom are



While a computerised system can make life easier, you need to take your time when first deciding on such a system and ensure that it will do the job required. It's a bit late to discover that it's not quite right after you have started to log information.

both very easy to use, Omega really takes the dreaded cliche of 'user friendly' and puts it right there in front of you. The program is menu-driven, with hotkeys and shortcuts that will please 'power users'. Aware that a program of the potential size of Omega may not fit on some of the lower-end PCs with less memory, Jones plans for three versions to be released - Omega Lite, for those without a hard drive on their PC; Omega Plus, with more frills and guts; and Omega Gold, the all-singing edition that will do everything but lick the stamp on the QSL card.

Each version will have the same basic interface, with program 'modules' that allow for it to be constructed to the users' individual needs. There will also be modules for a log manager and QSL manager, placing all your monitoring needs into one package. At the time of writing, Omega was still in the 'beta' test version, but is dily available for users to download and experiment with - all part of Jones' claim that Omega is about hobbyists working together. Look for OMEGA.ZIP on a board near you and never let it be said that CBA doesn't keep you up to speed on the latest in radio communications...and logging!

AND THE WORDMAZE WINNER IS...

The Wordmaze is our last issue (March/April) attracted a huge number of entries and it's obvious that the review on the particular Midland AM/SSb rig attracted a lot of favorable attention.

The answers we were looking for were;

1. Wagner
2. Croad
3. Manuel
4. Pronto
5. AGC
6 PAPA
7.Williams
8. Canada
9. Anguilla
10. Heat

We received many correct entriies, however the winner is;

Ms. Julie Clement of Nanango 4615, Queensland.

Congratulations Julie, you have yourself a nice rig which will be delivered to your home within the next few days. To all the other entrants, sorry, but better luck next time around.

As always, our thanks to Wagner Electrical Industries for the Midland rig and South Pacific Radio for the bonus prize of a Sniper base antenna and coaxial cable which will be forwarded to you by that company.

just books

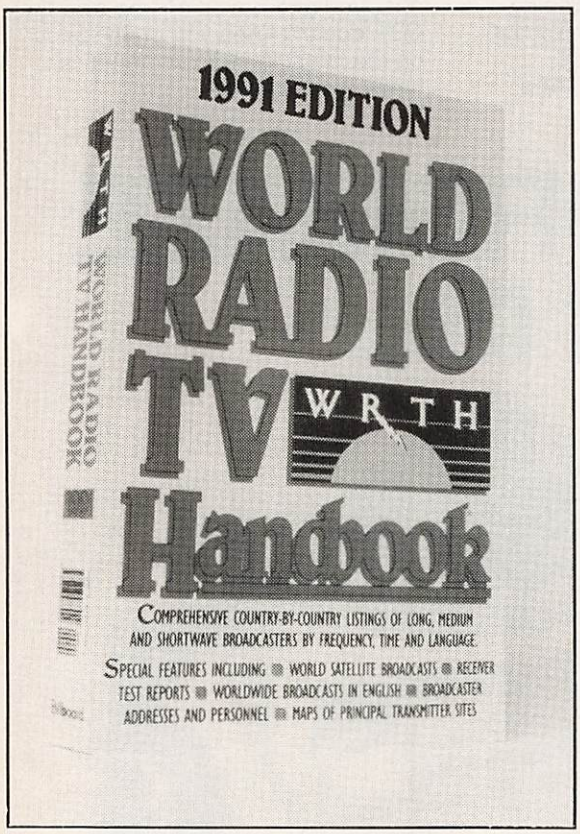
REVIEWS OF RECENT RADIO RELATED RELEASES

1991 WORLD RADIO TV HANDBOOK

$29.95 from Dick Smith Electronics
reviewed by Patrick McDonald

The WRTH is often called 'the DXers' Bible' and longtime shortwave aficionados like this writer have a shelf lined with well-thumbed editions of years gone by. But some listeners still ask, "Sure it contains enormous amounts of detailed info about radio and TV stations all over the world, but is it really useful to the practical SWL, DXer or ham radio operator?"

I received my 1991 edition fast and fresh from the wonderful people at Dick Smith Electronics and subjected it to the usual compulsive reading on day one, I must hasten to confirm that the World Radio and TV Handbook still lives up to its near-holy reputation.


1991 EDITION
WORLD RADIO TV Handbook
WRTH
COMPREHENSIVE COUNTRY-BY-COUNTRY LISTINGS OF LONG, MEDIUM AND SHORTWAVE BROADCASTERS BY FREQUENCY, TIME AND LANGUAGE.
SPECIAL FEATURES INCLUDING ■ WORLD SATELLITE BROADCASTS ■ RECEIVER TEST REPORTS ■ WORLDWIDE BROADCASTS IN ENGLISH ■ BROADCASTER ADDRESSES AND PERSONNEL ■ MAPS OF PRINCIPAL TRANSMITTER SITES

Any shortwave guide faces the perennial problem that broadcasters' changing schedules, times and frequencies may make a book out of date even before it comes on sale, and such criticisms have also been levelled at the Handbook. In response, editor Andy Sennitt has 'computerised' the WRTH through the use of databases and desktop publishing; editing and printing times have been reduced drastically, resulting in a prompt appearance with timely broadcasting skeds. This is no mean feat, given that regional and even international broadcasters exhibit a surprising unwillingness to supply the WRTH with current schedule details. Sennitt must therefore rely on a dedicated band of volunteer monitors around the world who listen in on hundreds of stations and gradually compile transmission details.

However, many radio folks don't realize that there is much more to the WRTH than program schedules, lists of all known shortwave frequencies and esoteric details about the world of communications.

For example, each year the WRTH features a hefty editorial section entitled 'Listen to the World', which in the 1991 volume includes reviews by internationally renowned experts Jonathan Marks and Willem Bos of many new shortwave receivers such as Icom's R-1 and R-72 and the new Sony SW7600, among others. There are also sections on radio-related computer software, vintage radio societies and new antennas. Nor would you want to miss a look at what is currently being developed by radio manufacturers. And in the probing 'Who Cares About Standards?' famous Sri Lankan DXer and ham Victor Goonetilleke pleads the case for the manufacture of inexpensive but decent quality radio receivers for the third-world.

Back again after a year's absence is a useful listing of all English language programs heard on the 'world bands', arranged by time order and listening region - extremely handy for the average listener who wants to know what might be on the bands when he fires up his rig at 8pm.

So is the WRTH a living dinosaur? Not in this bloke's humble opinion!

In fact it is better than ever and still a must for the keen radio listener. By the way, did you know that there are now 41,500 TV sets in Burkina Faso?

RADIO EXPERIMENTERS' HANDBOOK - Volume 2

$4.95 from most newsagents
reviewed by David Flynn

This interesting publication is the second joint effort from Roger Harrison's Apogee Group and Federal Publishing Co. Most of the 76 pages are a series of one-off articles by Roger Harrison, covering an appealing and useful range of topics for the experimenter or casual radio-head. First up comes a blow-by-blow rundown of Tom Moffat's new Listening Post II, a PC-based decoder for receiving weather fax, RTTY and cw on the HF bands. If you're into the full construction scene you can use the parts list, circuit diagram and PCB layout to etch your own boards and build the LPII from scratch, although an easier route would be to order the kit directly from Moffat.

From here, the Radio Experimenters' Handbook moves right across the spectrum (no pun intended) of radio, with something of interest for almost every reader. There's a do-it-yourself simple but high gain vertical for UHF CB or amateur bands; shortwave antennas for suburban listeners (designs include the inverted L, inverted V, delta loop and the trusty long wire); plus a VHF/UHF discone to build. Other articles are of a more introductory nature - a guide to RTTY, fax and cw transmissions on shortwave, sunspots and propagation and summer skip on the VHF ham allocations. Special mention should be made of the 'Introduction to 2 metres for novice licensees', which is a guided tour of this interesting VHF band for newcomers. It's informative, highly practical and probably the best intro to any amateur band I've ever read. The Radio Experimenters' Handbook, Volume 2, is stocked by most larger newsagents and at a shade under five bills it's a great read.

BETTER TV/RADIO RECEPTION

A Non-Technical Approach By Ash Nallawalla, Arthur Cushen & Bryan Clark $9.95 from Jaycar Electronics, (02) 747 2022
reviewed by Richard Jary

Like the title? Does this sound like the book you need to solve your reception problems? Well it just may be - depending on your needs. This publication deals with the problems of long-distance reception in a well laid-out order. It begins with an

overview of transmitters, receivers, bands and then goes into more detail on the relevant topics that affect our desire to receive more stations with less effort. The 'Non-Technical' in the title is justified - while this book deals with radio without the heavy theory, don't expect to understand everything unless you have a basic grasp of radio. While most of the terms used are at explained at least in brief they will certainly mean more if you have already experienced the problems of weak shortwave signals. The first chapter gives a good introduction to the various methods of radio and TV broadcasting, as well as the various terms one is likely to encounter within the hobby. A summary of propagation theory is also given for those wondering just how those elusive signals make their way from some strange tropical paradise to your radio shack. Unfortunately the book shows it's age when you come to the list of magazines recommended for the radio hobbyist - some of the magazines listed are no longer in print while plenty of others, such as CBA, are now available.

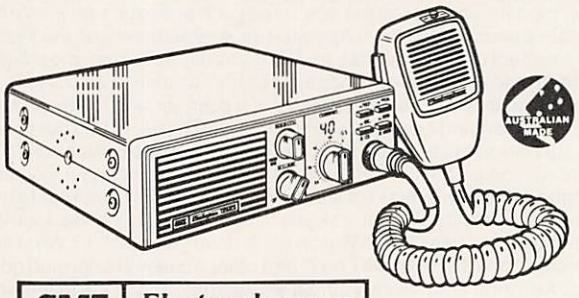
Otherwise the book is still just as relevant - after all, nobody has proven Marconi wrong yet! There is also a good grounding on the different types of receivers that have been used over the decades. Perhaps of more use to those wishing to choose a receiver, it also gives a sound explanation of those 'strange' terms such as dynamic range, passband tuning and the like. Logically enough, the book then deals with antennas, once again describing basic terms and designs and with construction details are given for various aerial types. The book then finishes off by briefly looking at computers, international broadcasters and a final chapter on the hobby of DXing. So to come back to our first question - is this the book for you? It's an ideal way for those who have recently started in the hobby of radio and wish to find out more. It is easy to understand, with good use of photographs and diagrams to help explain the topics. Worth the asking price of $9.95? If you feel you need to know more about radio then the answer is yes.

THE SHORTWAVE LISTENERS ANTENNA HANDBOOK

By Robert J. Traister $26.95 from Jaycar Electronics, (02) 747 2022
reviewed by Richard Jary

No matter how expensive your radio is, it is only as good as the antenna system feeding it. So once you have that brand new receiver sitting proudly on the desk, you need to get some signal to it. Apart from the usual wire-thrown-over-the-nearest-tree approach, just how do you build a good antenna? THE SHORTWAVE LISTENER'S ANTENNA HANDBOOK aims to be your complete guide to the theory and practice of shortwave aerials. It profiles the different types of aerials and how to select the right one for your needs and location; construction practices, materials to use and even those tricky little jobs like wiring up coax connectors; and all methods of erecting the antenna, from trees and roof-top masts through to towers, for those who really like to think big. There is no shortage of diagrams or useful advice - for instance, the important topic of stopping your mast from turning into a lightning rod and doing nasty things to that new expensive receiver and probably the operator as well! Now for the fun part - there are ten antenna construction projects, ranging from a simple dipole made out of 300 ohm TV antenna wire, to the inverted-V, box antenna, and even something known as a 'full wavelength triangle antenna'. You are guided through each step of construction and also shown how to troubleshoot each design if it doesn't work. The book also examines antenna tuners, couplers, and how to beat the DXer's greatest pest - interference. For anyone wishing to build their own antenna or a desire to improve their reception should find this book is certainly good value for money.

GME Electrophone



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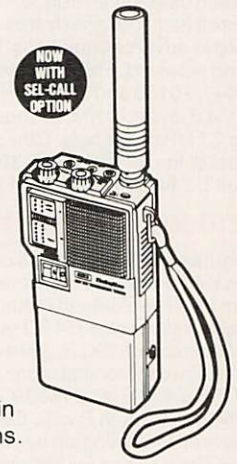

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hf utility

by Bob Bell

There is just so much happening on the HF utility bands that we'll jump right into the latest news and loggings.

FCC Warns On Gulf Monitoring

According to reports from a number of sources, it seems that America's FCC has sent a letter to all licensed US amateur operators, warning against divulging any information overheard on radio bands "not intended for public broadcast" - specifically, ute frequencies being used by the Allied Forces in the Persian Gulf. This applies to conversations, magazines and packet radio bulletin boards. Any amateur considered in breach of this directive can apparently be prosecuted under Section 605 of the Electronic Communications Privacy Act. Letters have also been forwarded to the publishers of various communications magazines and books including 'Monitoring Times' chief Bob Grove, Tom Kneitel of 'Popular Communications', HF frequency guide publisher Jorge Klingenfuss and Jeanie Ferrell from Gilfer & Associates. All have been warned that similar action could be taken against them if the guidelines are breached in their publications.

The letters also claimed that there was little point in monitoring the Gulf frequencies any longer, as all tactical communications was now handled using either number-group cyphers or electronic encryption. It went on to say that the frequencies of 6738 kHz and 11176 kHz reported in the hobbyist communications press as being used in the Gulf were in fact never used for such military purposes. Well, that's what the FCC says, although an 'army' of worldwide utility monitors, myself included, would vigorously disagree with them!

Whitbread Ocean Classic

Radio skeds for this year's Whitbread Around-the-World Ocean Classic are being conducted on the amateur allocation of 14116 kHz, so keep an ear out for the yachts checking in. But the callsigns won't be ham calls, yacht names are being used instead. Sked time is 0300z as a general rule, unless amended by popular consent.

Skycoms Update

Sydney Skycoms are now boasting Autocall, with aircraft operators using DTMF microphones to call Skycoms at the touch of a button. The system uses seven frequencies, continuously scanned for activity. Aircraft have previously had difficulty establishing Skycoms contact on voice in adverse conditions, but Autocall increases the chance of the call being received. Frequencies to listen on are 5160, 8140, 9040, 11132, 17440, 20160 and 23070 kHz. Both Voicecall and Autocall are available on the 5, 8, and 11 MHz frequencies, with Autocall-only on the 9, 17, 20 and 23 MHz channels. Other working frequencies are available upon request of the air operators: 3007, 4666, 6532, 8903, 8930, 8936, 10072, 11342, 11417, 13300, 13817, 15750, 19934 and 17940 kHz.

'Sunset' Tunes The WX Bands

Regular and anonymous correspondent 'Sunset', from northern NSW, was kind enough to send me a copy of a confirmation letter he received from the New Zealand Meteorological Service. Sunset received their transmissions on 13549.3 (although listed as 13550.1) from Wellington weather station ZKLF, which uses a 5 kW Aerocom transmitter feeding into a Marconi conical monopole antenna. Other NZ wx frequencies are 5806.6, 9458.6, and 16339.7 kHz. These broadcasts are intended for ships in the South Pacific Ocean and the Tasman Sea. They are prepared in Wellington by computer from raw information supplied by the New Zealand and Fiji Meteorological Services, and sent by landline to the transmitters which are actually remotely located far from the Wellington station site... in Auckland! Sunset also landed a 'classic' connected with the Gulf War, check out this issue's Utility Logsheet for more details.

Life In Lithuania

A Lithuanian ham operator has recently been heard using 14151.7 kHz to communicate with an apparent clandestine pirate operator somewhere outside Lithuania, according to Utility Traffic monitor Steve Reakes. The ham is keeping the world abreast of political developments in this small country which is trying desperately to win independence from Russia. Overheard is quite a deal of information concerning the separate state of Estonia, with the ham often requesting the clandestine to contact "the Parliamentarian" to relay news. Steve has been fascinated by these little chats which are obviously extremely dangerous exercises for the Lithuanian ham, who announces he is a licensed operator but understandably does not volunteer his official callsign! Thanks for that, Steve... you've given a lot of people something different to listen for!

Seatex and Selcall

A great little publication is now available from OTC. Entitled "How To Use Your Telex Machine To Call Ships At Sea" (sounds like an instant best-seller! - Ed.), it is something all serious maritime utility listeners should obtain. The booklet deals with Seatex, Inmarsat and Seagram. It's interesting background material, but just turn to page 9 and you'll find some totally captivating information. It is a Seatex Ship Directory listing every ship fitted with OTC's Seatex as of 15 September 1989. The listing provides each vessel's name, selcal number and radio callsign in their entirety. A couple of examples are the Pacific Princess, selcal 45581 and radio callsign WSE6016; and the famous QE2, selcal 45509, callsign GBTT. A very useful little booklet - thanks OTC!

In-flight Scanning

Brett Mitchell of Black Rock, Victoria asks a question on scanning which perhaps is more in the home court of Russell 'Tackleberry' Bryant, but Russell and I are good mates so I'll do him a favor and answer this one.

Brett tells me he is considering a trip overseas and wants to use his handheld scanner radio on board his flight out of Tullamarine. "I realise this is sometimes prohibited", Brett points out, "however as I understand it only transmitting devices should be banned. Could I possibly be given permission to operate the scanner in flight?"

Answer: almost 100 percent 'no, no, no', Brett! AM-type broadcast receivers did some years ago send their own signal a short distance, courtesy of their 455 kHz I.F. mixer stages, and that DID interfere with aircraft navigation equipment and other electronics. It's true that these days, modern scanner radios don't emit such spurious signals. With the Captain's permission I have operated several scanners on the flight deck with no effect on instrumentation. But generally speaking, most flight attendants and crew view an onboard scanner as akin to an Uzi submachine pistol and treat the operator of a scanner with the exact same amount of contempt as the owner of the Uzi! That is, IF you get past airport security at the gate lounge. I can get my handheld telephone on board with no problems, but the sight of a handheld scanner in your hand luggage is enough to make the average gate security attendant go apedroppings! They'll pull it out, ask you to remove the batteries, look inside it, be rude to you, ask you "Why on earth have you got this? What frequencies does it TRANSMIT on?" and other equally ill-informed questions. And they WILL delay you. So why bother? Place the scanner in your hold-destined baggage, and take it out only after you are actually on terra firma once again. But be careful what country you even do that in. Some of my Australian Aviation readers tell horror stories of being harassed in Greece and other countries by various officials for operating a scanner in public. Discretion is the word, Brett!

It's Logsheet Time!

Time to turn on the latest loggings, direct from our steadily increasing Utility Logsheet. If you wish to contribute your loggings to the column, send them along in the following format: frequency, UTC hours, mode, traffic details. Previous contributors, please note this is a revised and shorter format than the first logsheet. So get those loggings to: Utility Traffic, PO Box 301, Chester Hill 2162, NSW.

5535 1950z USB *"Speedbird London" LDOC freq. with Speedbird 38 enroute Copenhagen then Gatwick advising BA London of requirements on arrival Gatwick (Henry, NSW)*

5643 1229z USB *United 816 Aero to Honolulu ARINC re: passenger onboard suffered heart attack, requesting diversion to Honolulu (normally Sydney non-stop for Los Angeles). HNL wouldn't let UAL 816 track direct, as it would have had to fly through military active airspace. A/c crew further requested five flight attendants and one ambulance on arrival HNL to assist. ETA 1400z, tracked via ROSIE at FL330. Contacted centre on VHF126.5 when 300 nautical miles out Honolulu International Airport (Brons, Vic.)*

6840 0910z USB *BFBS (British Forces Broadcasting Service) with feeder program for Gulf troops (Bell, NSW)*

6944 1145z USB *US Military 'Capsule' broadcast (Saunders, SA)*

7680 0432z USB *Scrambled voice traffic, unknown origin, suspect US military in Gulf (Santos, Vic)*

8198.1 2000z USB *VIS Sydney Maritime on radphone ch 802 to unidentified yacht re: "arrival time 1000 local tomorrow" (Bell, NSW)*

8244.6 0530z USB *VIT Townsville Radio radphone ch 817, phone call from crew member aboard vessel Armina to his girlfriend (Bell, NSW)*

8291.1 0536z USB *VIT Townsville Radio to vessels Escapade, Spotlight 2 and Gratified, position reports. Also had tfc on hand for Larrikin. (Bell, NSW).*

8765.4 0550z USB *Coastguard Honolulu with Central Pacific wx broadcast, advising next wx broadcast at 1105z on this frequency and 6506.6 (Bell, NSW)*

8777.7 0835z USB *US Navy freq, various types of tfc heard, callsigns Bravo Oscar Quebec, Romeo 9 November, Sierra 9 Sierra, Bravo 2 Zulu, November 3 Echo, Foxtrot 5 Delta, Charlie 2 Hotel, all QTHs unknown. (Henry, NSW)*

8846 1950z USB *Nadi Radio Aero domestic freq. wkg UTA 522 at FL330. A/c requested higher flight level (Henry, NSW)*

8876 2347z USB *Melbourne Radio (domestic net.) wkg Alpha Alpha Lima with radio check, AAL being a Bell 206 helicopter beyond VHF range (Bell, NSW)*

8891 ????z USB *Cambridge Bay Radio, Victoria Island, Canada Volmets for Cambridge and Echo Bays, Baker Lake and Spence Bay, but poor sigs (Sunset, NSW)*

8967 0650z USB *Unknown US military grp. with phone patch (Bell, NSW)*

10048 0540z USB *Honolulu Radio Aero wkg unidentified a/c, gave secondary frequency 5528 and advised a/c to call Anchorage centre on 128.2 MHz (Sunset, NSW)*

10069 1920z USB *Aero unidentified a/c calling on LDOC frequency for phone patch. Pilot with American accent says 74 persons on board, posn. Belgrade, destination Frankfurt. Rang USA number with 713 prefix (Houston, Texas) and read out names, home towns, states and phone numbers for "detainees" on board. During call, pilot confirmed "Connolly and Ryan on board" - these two men were involved in negotiations for the release of Iraqi-held US hostages. Iraq was releasing several hostages around the time Sunset copied this, and this was probably the aircraft bringing them home. This would have to be the intercept of the month - good one! (Sunset, NSW).*

10072 2328z USB *Air New Zealand 36 aero to Air New Zealand Flt. Despatch, discussing minor hydraulic problem on board, advising they would be "on blocks Auckland 1050z" (Jones, QLD)*

10449 2210z USB *US military with tx testing for rx alignment (Bromley, NSW)*

10452 0902z USB *US Forces in Gulf with callsigns Concept, Arrow Poison, Co-worker, Spectacular and reference to channels Oscar and Zulu (Reakes, NSW)*

10465 0135z Piccolo *Unknown stn, unable to decode - anyone like to try this one? (Bell, NSW)*

10526 0650z USB *US Forces 'Capsule' transmission (Saunders, SA)*

1205 2100z USB *USAF calling name and colour groups, encoded tfc (Stevenson, WA)*

13178.3 0922z USB *VIP Perth Maritime wkg ship Alcadero, ship very hard to read. Advised to tune ch 815 (8762.3/8238.4 kHz) (Sunset, NSW)*

13205 0507z USB *RAAF Air Force Townsville calling Air Force Sydney for radio check (Kipp)*

13330 1838z USB *Jeddah Radio aero Saudi Arabia wkg Speedbird 133 with posn report, selcal check and request for Jeddah wx (Lopaka, NSW)*

13549 0515z USB *ZKLF Wellington NZ with coded mean sea level maritime wx analysis for South West Pacific area shipping (Sunset, NSW)*

13826 2000z USB *US Navy shipping in Gulf area, callsigns Charlie Sierra Echo and Charlie Oscar Quebec, one vessel in Red Sea, the other approaching "the ditch" (slang for the Gulf). General conversation about when they would be relieved, and then COQ called for "any Stateside MARS stn" at 2012z on same freq. (Collins, VIC)*

13826 2120z USB *US Navy shipping in Gulf area, November Yankee Mike advising November Romeo Oscar "If you can hear my stn. put up a marker!"; NYM had earlier spoken to November Romeo Mike regarding ship movements. At that time alternate freq. of 11605 had been given (Collins, Vic)*

14116 0300z USB *'Whitbread' Classic Round-the-World Yacht Race, Australian traffic net safety-sked (Reakes, NSW)*

14151.7 1320z USB *Lithuanian amateur stn calling clandestine with "news for the Parliamentarian" re: Soviet/Lithuanian/Estonian independance struggle (Reakes, NSW)*

14485 11305z USB *USAF MARS stns with phone patches from servicemen in Gulf War zone to wives and girlfriends in USA (Reakes, NSW)*

14485 1400z USB *Phone patches US Forces in Gulf War zone, again on amateur radio MARS net freq. (Kipp)*

17169.5 2350z CW *Awarua Radio ZLB with QSX transmission, advised listening 16 MHz channels 5/6/17, and 22 MHz channels 3/4/9 (Henry, NSW)*

17387 0900z USB *Cypriot radio-telephone tfc (Stevenson, WA)*

17904 0615z USB *Honolulu Radio aero, wkg Marshall Islands 106 at FL410, also Continental 003 at posn 13N 150E (Palmer, WA)*

17940 0955z Data Databurst, *possibly US military, with heavy jamming on frequency (Bell, NSW)*

17975 0916z USB *SkyKing-type broadcast (Reakes, NSW)*

17996.5 0920z USB *SkyKing-type broadcast (Reakes, NSW)*

Well, that's the Utility Logsheet for this time around. There's plenty of aeradio gossip and going-on in my column in Australian Aviation magazine, and if I don't catch you there then I'll see you next issue of CBA!

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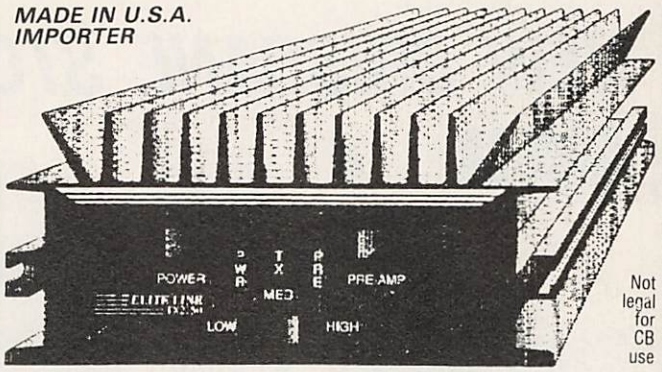

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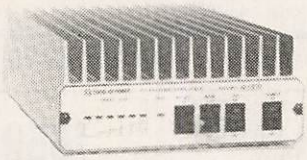

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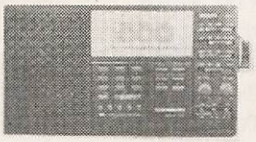

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Ken Reynolds look at the new to Australia...

MIDLAND AM 77-250 ONE OF THE BEST

It's quite some time since I've sighted an AM only rig which has immediately made such a favorable impression as has this new release on the market. It really is a quality transceiver and is destined to shake up some of the longer established names on the local scene.

The case is strong and well constructed - the predominant color being black with a grey background panel leading the eyes to the most used rotary controls. The line-up from left to right is microphone socket, on/off volume control, squelch, microphone gain, RF gain and SWR calibrate control. On the far right is the channel selector switch, which as you will see from the photograph is a bit small by normal standards, but is easy enough to operate provided your hands are dry - might be a bit tricky if you are the hot sweaty palm type.

The case dimensions in old imperial measurements are...wait for it...7 and 9/32 inches wide, 7 and 5/16 inches deep with a front panel height of 2 and 5/16 inches - actually pretty big for an AM only rig and, believe it or not, it weighs only four-and-a-half pounds.

The remaining front panel controls are display brightness switch, DNF on/off control, NB (Noise Blanker), ANL (Automatic Noise Limiter), channel 9/19 priority switch (useless in Australia), and the display mode switch that converts the display bar graph LEDS to read signal strength, RF output or to calibrate the SWR indicator. By this time some readers are probably saying "Hang on, what's a bloody DNF control?"...pretty much my sentiments too.

Dynamic Noise Filter is the catch cry and, according to the operating manual, this control "adds heavy duty noise filtering in the car's electrical system to filter out high level noise", which in my opinion makes it a pretty clever little switch.

Midland, after years of obscurity in Australia, gets to wave the flag again for the second CBA issue in succession. The reason is clear because POWER MAX, their new AM only offering, is certainly impressive compared with almost all its present competitors on the local market. MAX is big and heavy with an adjustable,quick release mounting cradle that can't fail to impress.

The mounting cradle is excellent and ingeniously solves the problems of the previous attempts at quickly installing and releasing your rig from the car while allowing a considerable degree of tilt for best viewing/operating angle of the controls. Readers familiar with the now defunct PHILIPS FM-320 and FM-620 mounting system will remember the full length slots in the sides of the case and how they always jammed up the sliding washers. Well, MIDLAND has perfected the idea using elongated tabs which, because of their aspect ratio, are impossible to catch in the grooves and so the whole mechanism slides smoothly in and out allowing a wide range of adjustment with very little effort. See the pics for a better explanation.

Internally, POWER MAX - also known imaginatively as model 77-250 - contains a deal more 'stuff' than we expected to find. There is extensive filtering for the power supply to remove most of the likely power line hash so common in many modern vehicles.

The receiver is also more sophisticated than expected, making considerable use of dual gate FETs (Field Effect Transistors) and an extra stage if IF filtering. The result is a very sensitive receiver providing better than average adjacent channel rejection and greater resistance to interference from strong signals further down the band. The noise limiting circuits provide good overall performance, however, we didn't find any special advantage from the additional DNF facility. This could well have been because we couldn't generate the necessary noise characteristic to show its special talents.

Receiver sensitivity was 0.22 micro volts for the 12dB SINAD test, but adequate readability of far weaker signals was a read cinch.

The Squelch threshold came in at an easily repeatable 0.2 micro volts and in the 'tight' (Maximum) position it required a signal strength of about 500 micro volts to open the mute gate.

The signal strength LED indicator rose through the lights fairly quickly up to strength '9' but we needed heaps of signal level to illuminate the 30+ LED. There was

omething strange about the 'S' meter eadings, but we didn't have the time to nvestigate it fully.

The RF gain control offered about 14 ecibels of attenuation over incoming sig- als which we thought was a tad on the ght side as we were expecting at least 0dB or more.

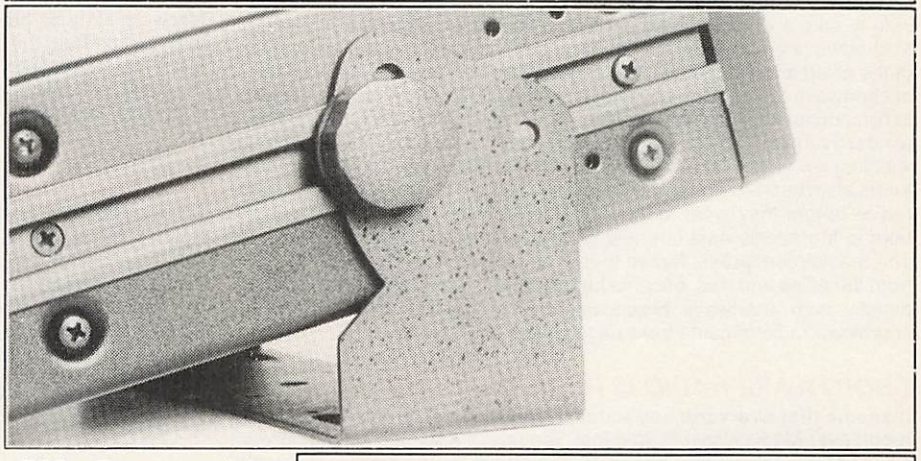
The transmitter functioned flawlessly xcept for a few millisecond delay be- ween 'hitting' the PTT and reaching full utput power. This is quite common with LL (Phase Locked Loop) synthesizer rig s a finite time is required for the transmit- er circuits to stabilize after the transition rom the receiver mode. However, most nodern rigs perform this task so quickly nat the lag goes unnoticed. An obvious ag like in this rig is often due to a minor naladjustment of the VCO (Voltage Con- rolled Oscillator) which should be easily ectified.

The transmitter provided a very 'clean' .2 watts of output power that, after our sual five minute continuous transmis- ion test, had dropped slightly to 3.9 watts nd in the process had warmed the case y a few degrees. Frequency accuracy is xcellent and hardly changed over the ntirety of the tests.

The LED RF output indicator lit up five ghts for unmodulated carrier transmis- ion and two further yellow LEDs flashed n sympathy with the modulating signal nus indicating the transmission was car- ying modulation.

Transmitted modulation is excellent nd, even with the Microphone gain urned all the way up, it was difficult to xceed 100 per cent modulation even nomentarily - unlike the Midland ideband rig reviewed last issue. The nicrophone gain control cuts all modula- on in the fully counter-clockwise setting nd smoothly adds level as the setting is dvanced toward full-on where it is likely o stay in the hands of most operators. We elt the SWR indicator circuit was a bit ptimistic and tended to give good reports ven on marginal antennas - one of our ase antennas is faulty and reads about .8:1 SWR on our lab directional coupler, owever, Mad Max here had us believing s was about 1.2:1 instead. All very nice ut not really indicative of the facts.

The owners' manual supplied with the POWER MAX package is unusually com- rehensive.All the control functions are xplained well and each description is ccompanied by a photograph of the witch or control in question. While the nanual is directed at the American narket, most of the information supplied s also applicable to Australian operators. A chart of the '10' code is supplied, as well as a discussion on factors affecting com- nunications range, antenna mounting ocations, noise sources and their sup- pression plus a schematic diagram of the transceiver with associated circuit board overlays to identify component placement. It is probably the best owners' manual we've seen in years.



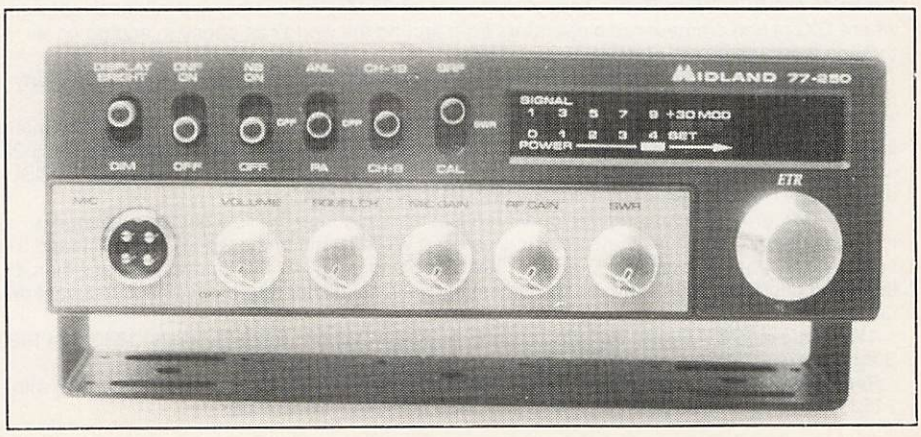
TOP: Rear panel is straightforward.
ABOVE: Mounting bracker system is good.
BELOW: Front panel is clean and attractive.

SUMMARY

Midland's 77-250 POWER MAX embodies just about everything you could want in an AM only CB radio - providing you don't require a super compact rig. It performs very well indeed and offers the devout hobbyist plenty of controls to fiddle to enhance operations.

The channel selector switch could be a bit larger in diameter - there is certainly enough room on the front panel - and we would like to see the SWR indicator perform more accurately, even if it is only an assembly line adjustment required.

The mounting hardware has to be the best we've seen on any hobby rig since the beginning of CBA. So, if you are in the market for a deluxe AM only style CB radio, and not too worried about the size, POWER MAX is certainly worth consideration.



dx logbook

with Rob Williams

WHAT'S HAPPENING IN THE WORLD OF SHORT WAVE RADIO

Welcome back to the world of HF radio. There's been so much happening it's been nearly impossible to keep up, with all those broadcasts from the Middle East keeping DXers beside their radios night and day. So let's get going. As always, all times are in UTC and all frequencies are in kHz.

GULF WAR ROUND-UP

With the Middle East crisis now off the front pages DXers have been able to take a welcome rest, and we're seeing what the war has meant to shortwave broadcasters. With American forces making up a large part of the allied effort in the Gulf there has been a massive upsurge in sales of shortwave radios. One US source claimed that Tandy had just decided to discontinue their DX-440 receiver when sales jumped through the roof almost overnight. Stocks quickly ran out and I've heard of a three-month wait for new units to arrive fresh from the assembly line. Other manufacturers also reported similar increases in sales. We had military staff buying radios before they went to the Gulf, their families at home and people born in the middle east but now living overseas, all wanting to tune in. The mainstream press, forced to rely on censored media releases both from the Allies and Iraq, became hungry for any news and began quoting directly from shortwave broadcasters in the Middle East. Suddenly, shortwave radio became front-page news!

SHORTWAVE RADIO IS REDISCOVERED

It seems that everyone has suddenly rediscovered shortwave radio. A report over Media Network said that Sangean's ATS-808A portable was selling at the astonishing rate of 4000 a month in Europe alone! People buying all these radios also wanted to know where to tune in. The 52,000 print run of the World Radio TV Handbook, which usually lasts for a year, was sold out in four weeks. A second run of 18,500 was arranged, and a third of this is already spoken for...

Was this trend reflected in Australia? I spoke to a number of importers, distributors and retailers, all of whom noticed a definite increase in enquiries and sales. One said that many more people were "coming in off the streets wanting to buy a radio with the shortwave bands". Biggest sellers have been the less expensive units rather than the top-shelf, high priced receivers. A spokesman from Philips Australia told me of an "enormous increase in retail sales across January and February, we have even had enquiries from electrical retails who don't normally stock the Philips 'all-band' radios".

AH YES, BUT WILL IT CONTINUE?

In February, at the height of the war, The Australian newspaper carried a lengthy report on what it called the "shortwave boom" brought on by the conflict. Written by respected electronics and communications journalist Roger Harrison, the article even included a list of frequencies on which to hear the broadcasters, with tips for those who were just beginning to explore the "world radio bands". The following week, Roger penned a follow-up story on how local enthusiasts were keeping in touch with the utility action from the naval, air and land forces.

It will be interesting to see if those people who now own shortwave receivers will maintain an interest in the hobby, or store the radios in a cupboard until another international crisis flares up.

QSL RADIO MARTI

US broadcaster Radio Marti is part of the United States Information Agency, the same body responsible for the Voice of America. RM's latest schedule includes 0600-1200 on 6030, 1200-1400 on 9590, 1400-2300 on 11930, and 2300-0600 on 9525. QSL address is Radio Marti, Voice of America, USIA, Washington DC 20547, USA. Best reception for me has been on the 0600 transmission. Thanks to Paul Blumstein for reporting this. Curiously Radio Marti doesn't have any broadcasts on Mondays UTC between 0400 and 0930 while maintenance is carried out on their MW transmitter at their Marathon, Florida site. Why this should effect their SW broadcasts is anyone's guess.

RN GETS THE DIGIT

In December 1990 Radio Netherlands began using a new digital transmission system to supply programming via satellite to their relay station on Bonaire, in the Netherlands Antilles. Together with the Optimod method of signal processing to achieve high efficiency modulation, this will mean a better signal being received by your radio. Effective from 31/3 RN's Monday-to-Saturday 0830 broadcast to New Zealand will move to 9770 from 15560. Bonaire is also the site of RN's new SSB transmission at 0030 on 15560, beamed to the US East Coast as of 31/3. Over the last few years we have seen increasing talk about international broadcasters using single sideband instead of AM. SSB is more efficient in power, signal reach and spectrum use. Between April and June RN are offering a special QSL for DXers logging the Bonaire sideband transmission, and have requested that reports note any noticeable difference in audio quality between this signal and other SW stations heard at that time. The QSL address is *Bonaire SSB Evaluation, Frequency Bureau, Radio Netherlands, PO Box 222, 1200 JG Hilversum, The Netherlands.*

DX SPOTS

Arthur Cushen's "DX World" program is now part of ZLXA's "CQ Pacific", heard Mondays at 0900 on 3935. ZLXA broadcasts 0630-0800 Sundays and 0600-1000 Mondays to Thursdays.

* KNLS' latest sked to Australia lists 0800-0900 on 11715, 1500-1600 on 9615, 1800-1900 on 11945 and 2000-2100 on 11910 (reported by Michael Rolph on SWP).

tune to HCJB's "Ham Radio Today" program on 25 May for another live talk-back session, where DXers and amateur radio operators from around the world can phone in and go on-air through the transmitters of HCJB.

also soon to come on HCJB, an "interval signal contest" on 4 May. Listen to their "DX Party Line" for full details.

for WWCR try 1200-0000 on 15690 and 0000-1200 on 7520; relays of Radio New York International are Sundays from 0200-0600, with "Glenn Hauser's World of Radio" Friday from 2215-2245 and again onSunday from 0130-0200. 7520 offers good reception here in our afternoons. QSL address is 4647 Old Hydes, Ferry Pike, Nashville TN 37218, USA.

one of the only ways an international broadcaster can gauge the size of their audience is through the amount of mail they receive. Deutsche Welle is one of the world's most listened-to stations, and recently published figures for 1989 tallied a total of 346,113 letters - just less than a thousand each day! That's the reason why many stations ask for return postage if you want them to QSL!

AWR Asia's "DX Asiawaves" show is now aired at 0230 on 13720 Sundays, 1630 on 11980 Saturdays and 2330 on 15610 Saturdays (this is the best one for Australian DXers).

***Radio Australia's* broadcast to RAN** ships in the Gulf have moved to 17535 in parallel with 21525. These are aired between 1430 and 1530 from RA's Darwin site.

CHANGES AT RADIO BUDAPEST

Fifty percent of Radio Budapest's programming staff will be cut, in the first of a series of changes at Hungary's international broadcaster. Ravaging double-digit inflation has had dramatic effects on station funding, and with the political changes in eastern Europe there are doubts that Hungary really needs a shortwave service. Also announced was the closure of broadcasts in Italian, Spanish and Turkish and RB's 'Central Editorial Board' which produces news, current affairs and general comment. The number of frequencies

used to broadcast to target areas is being halved, from six down to three. It is uncertain at this stage as to what will happen with the English broadcasts but they could be rescheduled into quarter-hour segments. Their current DX program will end but may be slotted into the regular broadcasts. Listeners who wish to complain to the station have been asked to write and voice their opinion - *the address is Radio Budapest, Budapest, Hungary.*

ADVENTURES OF THE DX DETECTIVES

Local DXperts Peter Bunn (from OZ DX) and Peter McMillan (of Southern Cross DX Club fame) have returned from their recent D-Xpedition to Asia. In the latest issue of his popular OZ DX newsletter Peter B. reports that All India Radio's Bangalore site is only on air at night while four new transmitters are installed during the day. Whilst visiting the Aligarh site the pair of Peters discovered the station still has two 'vintage' 1971 transmitters in use!

SYDNEY DXers GET TOGETHER

An informal gathering of Sydney DXers was held in Sydney during March. Members of DX Australia and the Southern Cross DX Club, both of which are affiliated with the South Pacific Association of Radio Clubs, met at the home of well-known hobbyist Andrew Elwell to discuss all manner of topics. The latest DX tips were shared, stories were swapped, and a video on the BBC monitoring service was shown along with some of the latest DX publications available. The evening was well-attended and so enjoyable that it has been decided to hold regular get-togethers around Sydney.

If you are interested in attending a future meeting then write to me with your phone number and the group will be in touch with a 'where' and 'when'.

NEW DX PROGRAM

German powerhouse Deutsche Welle have decided to introduce their own DX show, after many requests from listeners who use to listen to the now defunct DX program over Radio Berlin International. The new program will carry DX tips, frequencies, reception reports and schedule info. It will be aired once every four weeks on DW's weekly mailbag show. While I welcome the introduction of another DX program I feel that once a month is too little, so let's hope it soon becomes a weekly event.

NEW GEAR FROM SANGEAN

Gary Cratt, head of Australia's Access Communications, tells me that Sangean's new shortwave radio should give DXers almost everything they want in a single package. Due for release in June, the ATS-818C will have sideband facility, 45 memory channels, two time displays, continuous RF gain (not just a DX/local switch) and an inbuilt tape recorder! Sangean appear to be on a winner here, and CBA will carry a full review as soon as the first unit ships.

PHILIPS AE-3405 FOR MAY RELEASE

Meanwhile, Philips have slated their AE-3405 for a May release. This is an analogue, nine band portable in the economy range, and expects to retail at $129.95. Yet to see Australian shores are the Philips AE-3805 (LCD display, 20 memories and clock/timer) and National Panasonic's SW7600 look-alike, the RF-B40.

That wraps up another issue. Keep that radio on, as the Gulf War propaganda moves to a different level who knows what will turn up on shortwave? I only wish AFRTS were back on the bands! As always, please feel free to send any questions or DX tips to me at :

Rob Williams
PO Box 108,
Minto 2566
NSW

(enclose an SASE for reply), or via computer netmail to 3:713/605.

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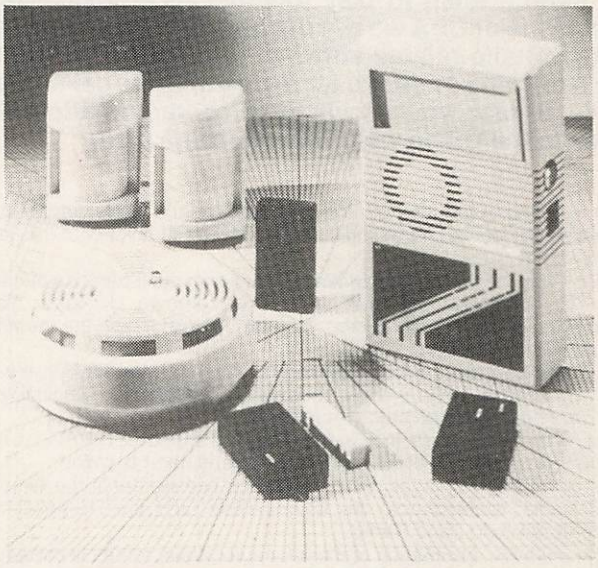

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online

by Patrick McDonald

HOW, WHERE AND WHY TO MAXIMISE COMPUTERS AND COMMUNICATIONS

Yes, indeedy, guys 'n girls, it's a real pleasure to welcome you to Oz's Mother-of-All-Radio-Magazines and especially to this quiet, modest little nook where we talk about introducing your radio to your computer and getting them to play together nicely.In the last great issue of CBA we put out an S.O.S. to any and all users of radio-related software to come forward with new & exciting offerings for review in these celebrated pages. In fact, yours truly even contacted a few old mates in the US as well, with the same plea.

The resulting outpouring of programs was great, I'm pleased to say, and we've got lots of interesting looking software to talk about...so let's get on with it!

First off, just in from the land of Walt Disney is an multi-purpose offering from TRS software, the brainchild of well-known US DXer Tom Sundstrom, who is also Sysop (system operator) of the popular Pinelands Bulletin Board.

OK, to be perfectly honest, I picked up this program thinking it was 'only' a database of the world's shortwave broadcasts in English, but found out that there was much more to it!

But first things first: let's look at the database aspect of SWBC, as this MS-DOS program (for all IBM compatible computers) is called.

This compilation of times and frequencies complements the famous World RadioTV Handbook 'the DXer's Bible' and the US-published 'Passport to World Band Radio'.

While the base information of these popular paper tomes is correct at the time of printing, international frequencies change, well...frequently!

But you can easily keep your electronic database current with Sundstrom's SWBC subscription service. Now, this well thought-out software allows you to browse through a database of more than 550 entries from more than 70 countries airing English language programming. You can search for a particular country, see what is on the air at a particular time of the day, or even search a file of 'DX shows' by either country or day of the week. A particularly handy-dandy feature is the ability to request a listing of only those broadcasts currently in progress at that very time of day.

Updating the SWBC records is pretty straight forward.

You can add, edit and delete records yourself or, easier still, subscribe to Sundstrom's update service. You may either download the data files from the Pinelands BBS an unlimited number of times during the course of the subscription (a bit pricey from Oz), or request a data disk at any time via mail. Sundstrom's data files are normally updated at least monthly, and at least weekly during the seasonal adjustment periods during the months of March, May, September and November.

You just plug these new files into your SWBC database, re-index, and Bob's your brother-in-law!

I really love this program, CBAers, and think you will too.

Now, what about that other feature of SWBC?

This is where I was surprised. With the appropriate interface and correct wiring of a serial cable, you can actually load all the SWBC frequencies directly into the memories of the Japan Radio Company's NRD-535, NRD-525 or JST-135. Kenwood's R-5000 receiver and the TS-440S transceiver are also catered for. Tom gives information about these interfaces and how to set them up and this makes for a for a very flexible and avant garde mode of keeping frequency into, believe you me, if you are lucky enough to own one of these great rigs.

AND THE NAME OF THE PROGRAM IS...

BTW, this super-duper product (in its earlier version) received a World Radio TV Handbook Industry Award in 1988 for 'Best Computer Accessory: Shortwave Database'.

A follow-up review in the 1991 WRTH says "... the program has been further improved and in our opinion still sets the standard in its category."Now, remember...SWBC is a commercial program, not shareware! This means you gotta buy it first. But it costs only US$20 and easily orderable from;

Thomas Sundstrom
TRS Consultants
PO Box 2275
Vincentown
NJ 08088-2275, USA

Telephone: +1 (609) 859-2447 or Fax: +1 (609) 859-3226

I requested it via FAX with my Visa card and had it a week later. Not bad! You can also contact Tom at his Pinelands BBS on +1-609-859-1910 at speeds up to 9600 baud, but you will have to pay some steep ISD costs to dear old Telecom!

COMPUTER CONTROL FOR ICOM R-7000 and R-71As

Speaking of computer control of radio receivers...now, here's the program you've all been asking about these past six months!

Straight from author Glenn Hansen, also in the great US of A, comes a shareware program designed to control the ICOM R7000 scanner and the ICOM R71A receiver, both very popular rigs on these shores, with your IBM compatible computer. Glenn calls his software ECHO for some unknown reason and notes that he uses a simple, homebrew version of the CT-17 interface to connect radio and computer. Notes on how to wire up this required cable and general operating instructions are included in the documentation that accompanies the program.

Anyhow, once set up, ECHO allows your beloved IBM compatible to talk to your trusty ICOM and make it do some amazing things; input frequencies, change the value of the tuning steps, change the mode of reception (UBS, LBS, AM or suchlike), input memory channels, write the displayed frequency to a memory channel, and even load receiver memories from a disk file.

As well, you can automatically record a frequency, time, date, mode and comment to a computer'logbook' file. But even more interestingly, ECHO will read a disk frequency file and scan it, or scan a user-defined frequency range and log to disk any active frequencies, noting the number of times each frequency was found! (Some of these functions only operate on the R7000, BTW, and not on the R71A.)

But the mind boggles at what computers can do with receivers, don't it? Yes,this all sounds very promising indeed and I have only mentioned the program's major functions, due to ever-pressing CBA space limitations.

Now, take note that Glenn calls this a BETA TEST shareware program. You are free to use it, copy it, share it with friends, and so forth, but it comes with no guarantees. Glenn thinks it works pretty good, but you will have to experiment a little, especially with the R71A side of the software.

As with all shareware, a small donation to the author helps keep him interested in working on new and better versions. And indeed, Glenn reckons he will soon come up with the following improvements: expanded R71A functions, expanded/improved logging functions, activity scan of files, ability to scan Tom Sundstrom's SWBC software schedule by time, and more.Anyhow, 'download' this program, compressed as ECHO5.ZIP, from SWP BBS and have a go...details at the end of the column.

CHASING DX WITH SWAVE

Change of subject now...another kind soul from the US of A 'uploaded' an most interesting shareware program to Shortwave Possums BBS the other day, by the name of SWAVE, written by one Tom Napolitano and I have since spent hours playing with it! This little package, also written for the IBM compatible family of computers, actually contains a set of three programs useful to shortwave listeners, particularly those interested in hard-core DX on the 60, 90 and 120 metre 'tropical bands' and will help you select the optimum times for listening for those far away Latin American or African stations that only slip through the ionosphere once in a blue moon.

There are many varying ideas about chasing such distant DX and these clever programs will enable you to test some the most popular theories for yourself, and in the process stay awake at extremely odd hours!

The first of these programs, MUF (for Maximum Usable Frequency), is based on the theory that propagation is largely determined by solar sunspot activity and its subsequent effect on the reflecting 'F layer' of the ionosphere. To use MUF, you must either know the current sunspot number, or the equivalent '10.7 cm solar flux index'. The latter is available

t 18 minutes after the hour broadcast on shortwave time stations WWV r WWVH on 5000, 10000, 15000 and 20000 kHz. (One of these should e audible here in Australia at any time of the day or night.)

You also have to input a target city. This could be one of those in the ata file provided with the program or you can input the latitude and ngitude of any other place that strikes your little fancy. Enter this info, hen, and you can instantly find out what frequencies should propagate est between your location and your obscure DX target.

AND MORE...

The second program in SWAVE, called GRAY, scans the same atabase of some 400 locations for those which are along your location's grayline' and hence ripe for dawn or sunset contact. The idea is that at hese two times in each 24 hour period, you may hear stations that are therwise inaudible, because propagation is best at dawn and dusk long the great circle line on the earth between darkness and daylight. quick input of the day's date will give you a list of all those potential X sites that are presently within half an hour of your QTH's sunrise and unset times.

AND MORE AGAIN...

Finally, the third SWAVE program, SPREADF, shows how your ocation's daily periods of daylight and darkness compare with your DX arget location's similar periods, again by scanning a data file of 400 ocations. SPREADF was written expressly to test the theory that ropagation, particularly from tropical locations within 25 degrees of the quator, is optimum during a six hour period commencing with dusk at he target location. The display is simple but clearly shows, graphically, he target area's period of darkness overlayed on your own local period f darkness for that date. Thus you can see exactly when you have to e wide awake and with headphones on to take advantage of spread-F ropagation!

AND YOU CAN GET IT FROM SWP

SWAVE.ZIP, a compressed archive file containing all three of these ropagation gems, is of course downloadable from, wait for it, SWP BBS. You will also need the program called PKZ110.EXE to decompress the le.) One other notable program turned up on my doorstep over the past wo months, very deserving of mention, and this was a demonstration ersion of LISTENING POST II, software which can, with the appropriate ardware interface, allow your IBM PC to decode RTTY (radio teletype) nd similar coded signals on the shortwave bands.

EXPAND YOUR SW HORIZONS

Called LISNPOST.ZIP, this little demo can be 'downloaded' to give ou an idea of something new to expand your shortwave horizons. I won't ay more now, as a little birdie has tipped me off that LISTENING POST I will shortly be reviewed in a famous Australian radio magazine known nd loved by thousands ...Now, let's turn back to something else always ear and dear to my heart - computer bulletin boards - before we finish ur little chat.

Regular perusers of ONLINE will know that Shortwave Possums BBS n Sydney and other similar computer bulletin boards across Australia carry a number of message areas relating to the radio hobby, including pecial 'echomail conferences' that are automagically transferred to all articipating BBSs around Australia.

OZ_SW is one such conference and this means that you can enter your istening tip or request for radio info at a nearby BBS, for the cost of a ocal call, and then have your message moved all around the country during the next day or two. More than two dozen BBSs in all states now carry OZ_SW and this indicates a growing & fanatic network of shortwave radio listeners available via your computer and modem.

Whoops! The end-of-page cometh!

Must run, but remember...you can contact me (and many other radio nuts) via your computer and modem on (02) 651-3055 24 hours daily on all speeds up to 2400 baud. After the free-of-charge SWP BBS registration procedure, you can download any and all of the shareware files reviewed here at ONLINE.

If you prefer, trust your message to the tender mercies of Australia Post by writing to:

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More info in the next issue of CBA...be there!

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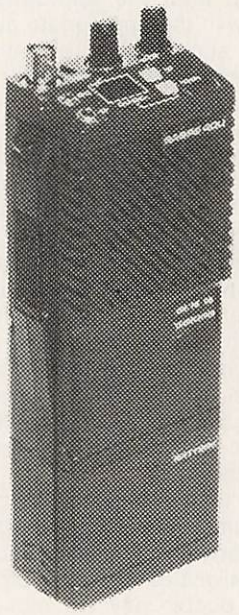

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OUT OF BAND *and* ALSO OUT OF HAND

No doubt a lot of readers were surprised to read in the March/April CB ACTION the segment on the 27MHz FREEBAND and the so called fruits of DX that it has to offer all who are willing and able. An associate of mine, who is a well known radio technician, has had a substantial increased in the number of would be 'FREEBANDERS' wishing to have their standard 40 channel rig modified for out-of-band activities. These people have just woken up to an illegal and out of hand problem that has been with us since CB radio began in Australia, and naturally they too wish to jump on the bandwagon and escape the crowded conditions on the 40 channel 27MHz allocation.Let me make it perfectly clear that there is nothing in the Communications Act that states you cannot RECEIVE signals from outside the legal 40 channel CB allocation, but there are stiff penalties for those who make the fatal mistake of being apprehended by the authorities for transmitting out-of-band...and believe me, there's been a lot of 'em.

The name '27MHz FREEBAND' can appear to be very misleading to those who do not understand or know how the frequency spectrum is structured, and one must realise that the whole spectrum from DC to daylight is accounted for right around the world. Should you wish to use part of this spectrum for the purpose of radio transmission then the appropriate license along with the appropriate qualifications to hold such must be obtained from the radio authorities prior to any operations taking place.

We all must realise and of course acknowledge that even though many frequencies appear to be unused, whether on the 11 metre band or other parts of the radio spectrum, they are in actual fact accounted for. If they are not allocated for use then they are under the custody of the communications arm of the Federal Government who control the radio spectrum in liaison with the various International agreements. So one can now understand that there is no FREEBAND, none what so ever, it is all accounted for and controlled.

Even on the 26 and 27MHz part of the spectrum large portions outside of the CB radio service may appear vacant but are in fact allocated to various organizations. These people pay big money to have access to these frequencies and thus do not take too kindly to intrusions from out-of-band DX chasers etc.

Some people who have illegally modified CB radio's are unaware of this and are under the notion that because the radio is capable of transmitting from 26 to 29MHz they have the legal right to use these frequencies or 'channels' as they see fit to.

This problem can be directly attributed to the sheer ignorance and lack of basic knowledge on how the radio spectrum is structured, and in turn they are very gullible to the words and advice of others whom they meet on the radio. You are indeed sailing close to the wind if you have a radio that transmits on frequencies that are unfamiliar to you...if you don't know the frequency the radio is transmitting on then don't use it!

A lot of newcomers to CB radio start off by purchasing a second hand CB radio from a friend or from a newspaper advertisement, some have fallen innocently into the trap of buying a radio that has been illegally modified and when they put the radio to air find that there are far more than the 40 channels than they expected. These people often do not realise that they are in fact operating out of the band limitations and that they may be in fact causing harmful interference to other services already established outside of the standard 27MHz CB allocation.

Over the years I have heard many people popping up onto the 27MHz Marine allocations either calling for DX or yelling "Breaker, Breaker" only to be firmly told that they are on a marine frequency and should not be there.

A situation recently arose on the 10 metre SSB portion of the amateur band where a group of amateurs were interrupted by a young voice yelling "Breaker, Breaker QSK" When the young lad was acknowledged he asked the radio amateurs who was on channel! When he was challenged as to whether he held an amateur license his response was that he didn't need one as he was a CBer and using a CB radio.

After further questioning it was revealed that the lad had purchased the CB radio (complete with a Digiscan) from a friend and was told that he could talk anywhere the radio could go... In reality the young lad did not have a clue as to where he was transmitting, the digital readout meant nothing, 28.550 was just a group of numbers on the display to him. All he knew was that he was using a CB radio and presumed all frequencies accessed were CB frequencies!

Out-of-band operations on the 26 and 27MHz allocations have been with us for many years now and intense DX activity seems to flourish when the Sunspot Cycles are at their peak.

Most serious DXers see the so called 'FREEBAND' as a universal meeting place, where DXers from various parts of the globe can meet up without the heavy traffic that is experienced on their local legal CB frequencies. Not all countries have a CB radio system similar to that of Australia and the USA...for example, the New Zealanders are on 26MHz and some countries in Europe are either on the VHF or UHF parts of the spectrum or on the high part of 27MHz.

Jack Haden, our regular DX contributor, looks at the problems the so-called 'FREEBANDERS" can and do cause and wonders about a solution

AUSTRALIA IS LUCKY

Australia has been fortunate enough to have access to two CB radio systems, the 27MHz HF and the 476-477MHz system on UHF, a lot of overseas countries only have one system and not necessarily on 27MHz or even HF for that matter. This is where the lure of the illegal 'FREEBAND' operations become a temptation and as word gets around more and more operators flock to the illegal 'FREEBAND', this can be seen today with

ore and more Eastern European untries jumping onto the unauthorized MHz 'FREEBAND'.

With today's modern radio equipment it quite easy to expand the radio's functns, enabling it to operate where it ouldn't. Gone are the days of tinkering ound with standard CB radios to get the uch sought after 10KHz step or adjustent of the clarifier to enable it to 'Slide' or 10kHz off the assigned channel.

While Sunspot Cycle 21 sloughed along the late seventies, so too did the chans in equipment technology with regard out-of-band operations. DXers soon und that quads and beam antennas ere the way to go, the old Ringos, ound-planes and that horrible looking ck Smith Swamper were all cast aside favor of maximum gain and directional ntrol derived from quads and beams.

DXers were quick to discover that the est Icom, Kenwood and Yaesu gear not ly boasted general coverage receive t could also be modified for general verage transmit as well, much to the staste of the authorities and radio nateurs alike who witnessed a lot of condhand and new equipment fall into licensed hands and reappear on 11 etres. The number of CBers who not ly lost all their expensive equipment but so wound up in court facing a Commonealth Government criminal offence was, d is, far greater than most operators agine. Few of these cases ever make e local papers, and even less the dailies ut you would be staggered to see the nount (and value) of confiscated uipped held and/or destroyed by oTaC.

ON'T CRY WHEN YOU'RE CKED

Few would-be Australian REEBANDERS' are aware that if/when ey are charged, it is under under Comonwealth law (not local) and with a minal offence, not a minor misdeamour. convicted, and they usually are, they will rry a 'record' for life...think about it!

Trio-Kenwood in 1983 (under a new overnment law) brought out the TS-93X d the TS-43X, the 'X' meant that the dio was supposedly unmodifiable for t of amateur band transmissions. A ban as also introduced preventing manufacrers from marketing linear amplifiers th 10 metre band capabilities on the nateur market, in a too late and too poor fort to stop them from being used on 11 etres. This ban has since been lifted.

While this was all happening, the Comunications authorities found their time d reserves pressed to the limit in comting out-of-band operations on 11 eters, after they would bust one, two or ree more would appear in his or her place, ready, willing and able to take the risk involved all for the sake of a DX contact and the much sought after QSL card.

In 1978 a fledgling club was formed by some Italian DXers, to be officially known as Gruppo Radio Italiano, the Alfa Tango club was born, founded by Aldo the 1-AT-001 it soon became popular. The decline in propagation between Cycle 21 and 22 did not see this club vanish, as did a large portion of the other 'fly by nighters' that appeared.

ALFA TANGO THE BIGGEST

Today the Alfa Tango Group is the biggest DX club catering to out-of-band operators with the promotion of DX and DXing being its success and no doubt has been responsible for the promotion and establishment of illegal 'FREEBAND' operators in many countries previously not involved in such activity. The Alfa Tango group pioneered the use of a number prefix identifying a particular country, something which other clubs have modelled their call sign allocations to.

It is common knowledge that many Government radio departments around the world have been outraged at the growth of Alfa Tango and have been known to complain loudly to the Italian communications authorities to do something about it and close down Alfa Tango for good. They're still there though..!

Alfa Tango is not alone of course in the promotion of 'FREEBAND' and all of its illegal frequency usage, other organisations such as the Sperimental Radio International DX Group are also on the bandwagon promoting 'FREEBAND' operations. Sperimental Radio too has grown in enormous proportions and would have to be the second biggest FREEBAND group next to Alfa Tango.

Even though we're are now in the 1990's nothing much has changed on the 11 meter band, the once 'HFers' are now called FREEBAND operators, modified amateur rigs have largely replaced standard CB radio's with Digiscans and arrays of beams and quads have replaced the once faithful vertical antenna.

Some say the FREEBAND people have helped boost the amateur ranks with an unknown percentage becoming bored with 11 meters and thus sitting for their radio amateur license and in turn use their radio to its full potential and on its proper bands. It is true to say a lot of radio amateurs who have been licensed in the past 10 to 15 years have cut their teeth so to speak on 11 meters whether legally or otherwise is another question.,

A lot of the blame associated with FREEBAND operations and the blatant piracy of frequencies outside of the legal 40 channel HF system must lie with the radio communications authorities in various countries. Here in Australia as we all know CB radio was bungled and blundered from the very start, laws were not introduced quick enough to stop the import of sub-standard and illegal add-ons (Digiscans, linear amplifiers, etc.), not to mention the laws governing the purchase of radio equipment capable of transmission.

Secondhand radio's are bought and sold through newspaper adds each day, I wonder how many of these people selling such equipment ask the buyer if he or she has a current license to operate such in the first place!

The authorities here in Australia have been stretched to the limit in the war against FREEBAND operators and their abuse of the radio spectrum, with government funding cut to their department they have no alternative but to slash overtime and reduce their staff levels

All of this still doesn't give you any right at all to operate out of band on the so called FREEBAND on 27MHz, nothing is free in this society anymore and if caught by the authorities you will no doubt find out just how expensive your little jaunt out of the 40 channel system will be, with a possible goal term to with it. Out-of band, Out-of-hand? I will let you decide.

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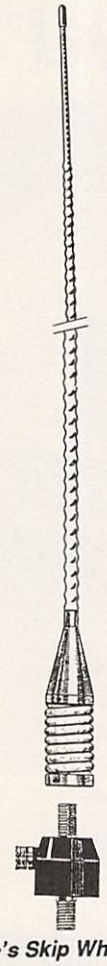
product review...

For this issue Dick Smith Electronics ent us a carton-full of Mobile One HF nd UHF antennas, plus sundry other ntenna accessories manufactured by at company and marketed through SE stores, among others.

The tales of wonder and amazing performance associated with antennas are nly exceeded by the variety of antennas vailable on the world market today. hy, you can still buy from Asia a mobile hristmas tree' that displays a column of



Mobile One's Skip Whip comes up as one of the best.

ulti-colored lights every time you modute.

Isn't that something?

There are no lights to be seen on the obile One SAM model SKIP WHIP six ot long helically wound antenna but you ight well say this model will set the arks flying.

Mobile One in Sydney, ably lead by anaging Director Greg Ackman has een hellicalizing fiberglass whips for more than a dozen years (I reckon it's more like 15 years - Ed) now and the SAM SKIP WHIP is for good reason the flagship of the CB fleet. In fact, the performance of this antenna is so close to that of a full size quarter wave (108 inch whip) that under most circumstances it is hardly possible to pick the difference in practical terms. There are fatter whips and whips with bigger, flashier springs, but I've never actually evaluated a loaded mobile CB antenna that out performs the SKIP WHIP, and, believe me, I've tested hundreds of the damned things.

It's no accident that the SKIP WHIP works so well being a combination of all the good bits rolled into one package. Beginning life at six foot long is a distinct advantage if you're a CB antenna and if you also happen to have a low resistance hi-Q helical winding to resonate at 27MHz, well, that scores good points too.

Now, if you are covered with a good quality polyolophin long life plastic sheath which offers good resistance to heat, ultra violet radiation and abrasion, the chances are that you are well on the way to being a CB star.

The whip includes a stainless steel spring base carrying a one half inch BSW heavy duty mount to complete the package. A connecting cable is also supplied and the whole system is packaged in a tough PVC plastic bag.

Because of the sheer mass and heavy duty helical winding the SKIP WHIP is capable of handling quite high power levels - probably around 'half a gallon' which as everybody knows (well don't you?) is Yankee for 500 watts.

In my opinion, this is Mobile One's best mobile CB whip because it embodies good quality componentry, sensible design and it offers sizzling performance of the magnitude CBers often rave about but seldom achieve.

As a footnote, while we were doing the tests on this antenna we had cause to open the previously sewn-shut-eye of a customer who adamantly swore that his five foot something-or-other-else braided antenna would eat the Skip Whip and spit out the spring.

WRONG! He was still stunned as he left the shop carrying his new Skip Whip knowing that the plastic on his new antenna wouldn't crack-up after two years out in the weather like his old five footer did...as a side-bonus, he was also hearing stations that he didn't even know were there.

Ken Reynolds checks out some antennas and accessories from Mobile One and supplied by DSE

Megablaster is a top UHF antenna, but don't us a spring-base if you want top performance.

MAYBE A MEGABLASTER

Our second antenna for review this

(continued over page...)

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products review...

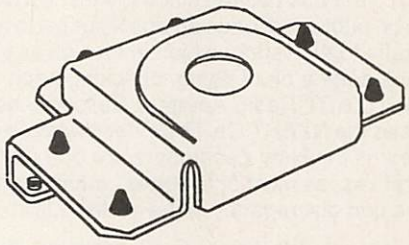
issue is also from Mobile One and is xcitingly called the MEGABLASTER vhich conjures up visions of shattering erformance...in a Dick Tracy style that is. In truth, the MO Megablaster is based n the traditional 27MHz format of the five eet long, flexible, fibreglass whip, braided long its length with short cut-out sections f braid which are replaced with three hasing coils - as opposed to loading coils vhich are a totally different ball game.

Unlike most of the 6dB claimed perfor- ıance UHF antennas the Megablaster is ot ground independent and to be con- idered any sort of performer at all it IUST be given an adequate ground- lane. Just to prove the point we tried it ıounted on an average gutter grip and ound the results erratic and basically un- atisfactory.

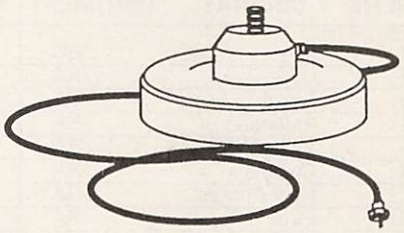
The performance improved out of sight y mounting the antenna on the traditional enter-of-the-roof' mobile mount or, as a ariation, with the addition of the now opular 'sleeve' dipole style mount - a evamped version of PHILIPS' basic round independent, mobile UHF stick arketed some dozen years ago.

Because of the inconvenient length of the Megablaster we noticed that some opportunists (for the lack of a more printable word) have found it necessary to market the antenna complete with a medium to heavy duty spring. Be very careful here as under test I found that the addition of a spring base completely destroyed the accurate operating proportions of the antenna and the performance was just average. If you already own a Megablaster complete with spring - get rid of the spring and give the antenna a chance to perform.

It can be a real struggle mounting an antenna on today's vehicles, but, the BMS and BMB boot and bonnet mounts do the job perfectly. Available in a stainless steel or matt black finish, they are easily fitted being held firmly in place by two Allen screws. Made by Mobile One and available in DSE stores.



There are magnetic mounts and there are magnetic mounts...some that we've tested fell off the roof at 60kmp with even a small antenna. Others, and we include Mobile One's MAG12C in this category, stay aboard at up to and maybe above 100 kmh. The unit is extremely well constructed and is available in bright chrome or flat black. Not too sure about the 'enhanced field core' bit but it works well and comes complete with coax cable.



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CB ACTION - DX INTERNATIONAL DXCC COUNTRIES LIST 1991

Compiled by Jack Haden

A year has passed since the last DXCC listing was published, so the time has come for a new list with ammendments and additio to be published, once again exclusive to readers of CB ACTION. Answering the requests of some avid DXers I have added the contine prefix to the listing, which in turn gives you a quick reference to what part of the world that the country concerned is located in. Th took quite a bit of doing, checking each country one by one and I found the ARRL Foreign Listing Callbook a great asset along wi the NZART Radio Amateur Callbook, between the two I found a corresponding continent prefix against each country. The reaso used the NZART Callbook was because our own WIA Radio Amateurs Callbook fails to list the continent prefixes in the DXCC listing seems the New Zealanders are one up on us in that regard!As per the last listing, this one too is based on the Alfa Tango DX Grou prefixes, as most of us know, most reputable DX Clubs follow the same series of country prefixes that Alfa Tango does. You may fi the odd discrepancy in the prefixes from club to club but overall the majority adhere to the AT Group prefixes for ease of identificatio

We have added a worked and confirmed column so that you can keep track on your tallies, so I hope that you avid DXers out the find some use for this 1991 listing as I burnt the midnight oil putting it together. Good DX...***Jack Haden.***

PREFIX	COUNTRY	CONTINENT	WORKED	C'FIRMED
1	Italy	EU		
2	USA	NA		
3	Brazil	SA		
4	Argentina	SA		
5	Venezuela	SA		
6	Colombia	SA		
7	Neth Antilles	SA		
8	Peru	SA		
9	Canada	NA		
10	Mexico	NA		
11	Puerto Rico	NA		
12	Uruguay	SA		
13	Fed Rep of Germany	EU		
14	France	EU		
15	Switzerland	EU		
16	Belgium	EU		
17	Hawaii	OC		
18	Greece	EU		
19	Holland	EU		
20	Norway	EU		
21	Sweden	EU		
22	French Guyana	SA		
23	Jamaica WI	NA		
24	Panama	NA		
25	Japan	AS		
26	England UK	EU		
27	Iceland	EU		
28	Honduras	NA		
29	Ireland (Eire)	EU		
30	Spain	EU		
31	Portugal	EU		
32	Chile	SA		
33	Alaska	NA		
34	Canary Islands	AF		
35	Austria	EU		
36	Rep of San Marino	EU		
37	Dominican Rep	NA		
38	Greenland	NA		
39	Angola	AF		
40	Leichenstein	EU		
41	New Zealand	OC		
42	Liberia	AF		
43	Australia	OC		
44	South Africa	AF		
45	Yugoslavia	EU		
46	deleted 4/10/90	-		
47	Denmark	EU		
48	Saudia Arabia	AS		
49	Balearic Islands	EU		
50	European USSR	EU		

PREFIX	COUNTRY	CONTINENT	WORKED	C'FIRME
51	Andorra	EU		
52	Faroe Islands	EU		
53	El Salvador	NA		
54	Luxembourg	EU		
55	Gibraltar	EU		
56	Finland	EU		
57	India	AS		
58	East Malaysia	OC		
59	Rodi Dodecanese	EU		
60	Hong Kong	AS		
61	Ecuador	SA		
62	Guam Island	OC		
63	St Helena Island	AF		
64	Senegal	AF		
65	Sierra Leone	AF		
66	Mauritania	AF		
67	Paraguay	SA		
68	Ireland (Northern)	EU		
69	Costa Rica	SA		
70	American Samoa	OC		
71	Midway Island	OC		
72	Guatemala	NA		
73	Suriname	SA		
74	Rep of Namibia	AF		
75	Azores Islands	EU		
76	Morocco	AF		
77	Ghana	AF		
78	Zambia	AF		
79	Philippines	OC		
80	Bolivia	SA		
81	San Andres Island	NA		
82	Guantanamo Bay	NA		
83	Tanzania	AF		
84	Ivory Coast	AF		
85	Zimbabwe	AF		
86	Nepal	AS		
87	North Yemen	AS		
88	Cuba	NA		
89	Nigeria	AF		
90	Crete Island	EU		
91	Indonesia	OC		
92	Libya	AF		
93	Malta	EU		
94	United Arab Emirates	AS		
95	Mongolia	AS		
96	Kingdom of Tonga	OC		
97	Israel	AS		
98	Singapore	AS		
99	Rep of Fiji	OC		
100	South Korea	AS		

PREFIX	COUNTRY	CONTINENT	WORKED	C'FIRMED
101	Papua New Guinea	OC		
102	Kuwait	AS		
103	Haiti WI	NA		
104	Corsica Island	EU		
105	Botswana	AF		
106	Ceuta Melilla	AF		
107	Monaco	EU		
108	Scotland UK	EU		
109	Hungary	EU		
110	Cyprus Island	EU		
111	Jordan	AS		
112	Lebanon	AS		
113	West Malaysia	AS		
114	Pakistan	AS		
115	Qatar	AS		
116	Turkey	EU/AS		
117	Egypt	AF		
118	The Gambia	AF		
119	Madeira Islands	AF		
120	Antigua WI	NA		
121	Bahamas WI	NA		
122	Barbados WI	NA		
123	Bermuda Island	NA		
124	Amsterdam Island	AF		
125	Cayman Islands	NA		
126	Nicaragua	NA		
127	US Virgin Islands	NA		
128	British Virgin Islands	NA		
129	Macquarie Island	OC		
130	Norfolk Island	OC		
131	Guyana	SA		
132	Rep Marshall Islands	OC		
133	Mariana Islands	OC		
134	Rep of Belau	OC		
135	Solomon Islands	OC		
136	Martinique Is FWI	NA		
137	Isle of Man UK	EU		
138	Vatican city	EU		
139	South Yemen	AS		
140	Chilean Antartica	AN		
141	St Pierre/Miquelon	NA		
142	Lesotho	AF		
143	St Lucia Island	NA		
144	Easter Island	OC		
145	Galapagos Islands	SA		
146	Algeria	AF		
147	Tunisia	AF		
148	Ascension Island	AF		
149	Laccadive Islands	AS		
150	State of Bahrain	AS		
151	Islamic Rep of Iraq	AS		
152	Maldive Islands	AS/AF		
153	Kingdom of Thailand	AS		
154	Islamic Rep of Iran	AS		
155	Taiwan OC	AS		
156	Cameroon	AF		
157	Montserrat WI	NA		
158	Trinidad & Tobago	SA		
159	Somalia	AF		
160	Sudan	AF		
161	Poland	EU		
162	Zaire	AF		
163	Wales UK	EU		
164	Togo	AF		
165	Sardinia	EU		
166	St Maarten Saba-Eustatius Isl	NA		
167	Jersey Island UK	EU		
168	Mauritius Island	AF		
169	Guernsey Island UK	EU		
170	Burkina Faso	AF		
171	Svalbard Island	EU		
172	New Caledonia	OC		
173	Reunion Island	AF		
174	Uganda	AF		
175	Chad	AF		

PREFIX	COUNTRY	CONTINENT	WORKED	C'FIRMED
176	Central African Rep	AF		
177	Sri Lanka Island	AS		
178	Bulgaria	EU		
179	Czechoslavakia	EU		
180	Oman	AS		
181	Syria	AS		
182	Guinea Republic	AF		
183	Benin	AF		
184	Burundi	AF		
185	Comoros Oslands	AF		
186	Djibouti	AF		
187	Kenya	AF		
188	Malagasy Republic	AF		
189	Mayotte Island	AF		
190	Seychelles Islands	AF		
191	Swaziland	AF		
192	Cocos IS (C.America)	NA		
193	Cocos Kealing Is	OC		
194	Dominica Island	NA		
195	Grenada WI	NA		
196	Guadeloupe FWI	NA		
197	Rep of Vanuatu	OC		
198	Falkland Islands	SA		
199	Equatorial Guinea	AF		
200	Shetland IS (Sth Am)	SA		
201	French Polynesia	OC		
202	Bhutan	AS		
203	China	AS		
204	Mozambique	AF		
205	Cape Verde Islands	AF		
206	Ethiopa	AF		
207	St Martin Island	NA		
208	Glorioso Island	AF		
209	Juan De Nova Island	AF		
210	Wallis & Futuna Is	OC		
211	Jan Mayen Island	EU		
212	Aland Islandq	EU		
213	Market Reef	EU		
214	Congo	AF		
215	Gabon	AF		
216	Mali	AF		
217	Christmas Island	OC		
218	Belize	NA		
219	Anguilla WI	NA		
220	St Vincent & Dep	NA		
221	South Orkney Islands	SA		
222	Sandwich Islands	SA		
223	Western Samoa	OC		
224	Western Kiribati	OC		
225	Brunei	OC		
226	Malawi	AF		
227	Rwanda	AF		
228	Chagos Archipelago	AF		
229	Heard Island	AF		
230	Fed States of Mi'onesia	OC		
231	St Peter & St Paul	SA		
232	Aruba DWI	SA		
233	Romania	EU		
234	Afganistan	AS		
235	ITU Geneva	EU		
236	Bangladesh	AS		
237	Myanmar	AS		
238	Cambodia	AS		
239	Laos	AS		
240	Macau	AS		
241	Spratly Island	AS		
242	Vietnam	AS		
243	Agalega & St Br'don Is.	AF		
244	Pagalu Island	AF		
245	Niger	AF		
246	Sao Tome & Principe Is	AF		
247	Navassa Island	NA		
248	Turks & Cacios	NA		
249	Amsterdam & St Paul Islands	AF		
250	Cook Islands	OC		

PREFIX	COUNTRY	CONTINENT	WORKED	C'FIRMED
251	Albania	EU		
252	Revilla Gigedo Island	NA		
253	Andaman & Nicobar Islands	AS		
254	Mount Athos	EU		
255	Kerguelen Island	AF		
256	Prince Edward & Marion Isl	AF		
257	Rodriguez Islandq	AF		
258	Tristan de Cunha Is	AF		
259	Tromelin Island	AF		
260	Baker & Howland Is	OC		
261	Chatham Islands	OC		
262	Johnston Atoll	OC		
263	Kermadec Island	OC		
264	Kingman Reef	OC		
265	Central Kiribati	OC		
266	Eastern Kiribati	OC		
267	Kure Island	OC		
268	Lord Howe Island	OC		
269	Mellish Reef	OC		
270	Minami Torishima	OC		
271	Rep of Nauru	OC		
272	Niue Island	OC		
273	Palmyra Atoll	OC		
274	Pitcairn Island	OC		
275	Tokelau Islands	OC		
276	Tuvalu Islands	OC		
277	Sable Island	NA		
278	Wake Island	OC		
279	Willis Island	OC		
280	Aves Island	NA		
281	Ogasawara Islands	AS		
282	Auckland & Campbell Is	OC		
283	St Kitts/Nevis Is	NA		
284	Saint Paul Island	NA		
285	Fernando de Noronha Is	SA		
286	Juan Fernandez Island	SA		

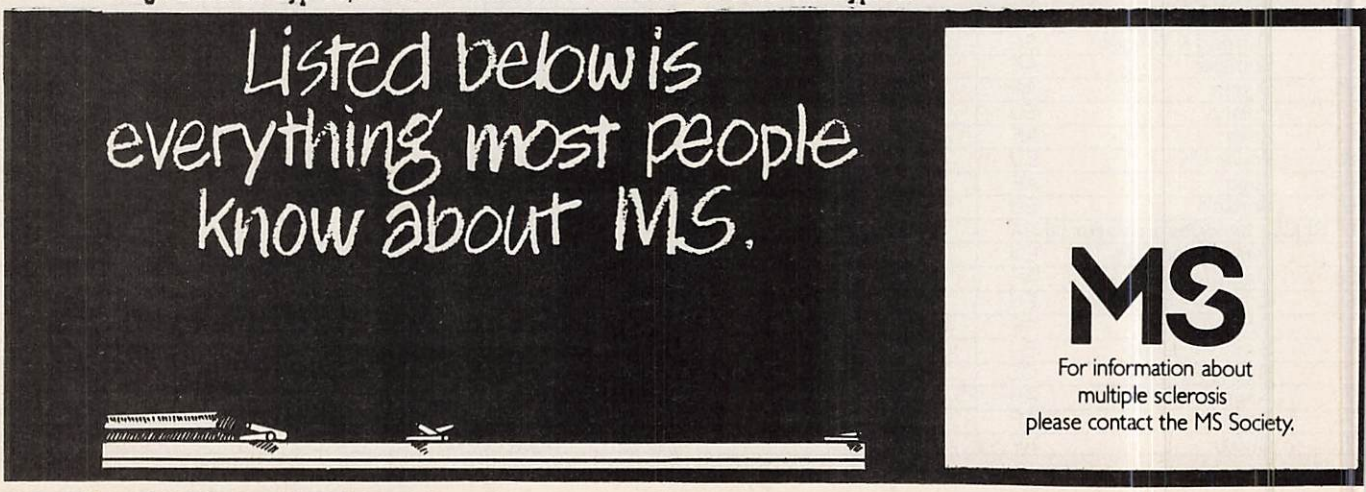
PREFIX	COUNTRY	CONTINENT	WORKED	C'FIRMED
287	Malpelo Osland	SA		
288	St Felix & Ambrosio Is	SA		
289	South Georgia Is	SA		
290	Trinidad & Martin Vaz IS	SA		
291	Sovereign Base Cyprus	AS		
292	Abu Ail & Jabal At Tair	AS		
293	Guinea Bissau	AF		
294	Peter 1st Island	AN		
295	Sudan	AF		
296	Clipperton Island	NA		
297	Bouvet Island	AF		
298	Crozet Islands	AF		
299	Desecheo Island	NA		
300	W. Sahara & Rio de Oro	AF		
301	Armenia	AS		
302	Asiatic USSR	AS		
303	Azerbaijan	AS		
304	Estonia	EU		
305	Franz Josef Land	EU		
306	Georgia	AS		
307	Kaliningrad	EU		
308	Kazahstan	AS		
309	Kirghizia	AS		
310	Latvia	EU		
311	Lithuania	EU		
312	Moldavia	EU		
313	Tadzhikiatan	AS		
314	Turkmenistan	AS		
315	Ukraine	EU		
316	Uzbekistan	AS		
317	Byelorussia	EU		
318	Sov Military Ord of Malta	EU		
319	UN HQ New York	NA		
320	Banaba Island	OC		
321	Conway Reef	OC		
322	Walvis Bay	AF		

ZONES

AF = Africa NA = North America AN = Antartica OC = Oceania AS = Asia SA = South America EU = Europe

ADDITIONAL NOTES

* **East and West Germany** amalgamated as one country as of 4th of October 1990 and thus the old 46 (ex East Germany) is now a deleted country, I believe stations that were using the old 46 prefix will or have been issued with a 13 division prefix which is the Federal Republic of German.
* **North and South Yemen** have also amalgamated to form one country and thus either the 87 prefix (North Yemen) or the 139 prefix (South Yemen) will be deleted in the near future.
* **White Russia** is better known as Byelorussia and thus has been listed as such (317 prefix).
* **Banaba Island** (320) although part of Western Kiribati achieved DXCC status in 1990, Banaba Island is also known under it old name of Ocean Island.
* **Conway Reef** (321) is a territory of the Republic of Fiji.
* **The following** DXCC countries have yet to be allocated prefix numbers, although they have been issued with such on the amateaur bands for some time now: (3D2) Rotuma Island and (4J) Malyi Vysotski Island.
* **Some smarty in Alfa Tango** listed 291 prefix as Dhekelia & Akrotiri, a quick check in the atlas proved it to be still British Sovereign Base on Cyprus, Akrotiri is a town near the base on Southern Cyprus.



Your Passport To The World

DX YOUR FIRST 20 SHORTWAVE STATIONS

A shortwave 'shoppers guide' to 20 easy-to-hear stations -- you can start your QSL collection today, with Rob Williams' help.

ust beyond the dial of your hortwave radio lies a whole world f music, news and people. You an tune these stations, collect olorful QSL cards for your shack nd at the same time start practic- ng those vital DX skills. You can lso be the first on your block to et strange foreign-looking mail rom overseas!

rom my own log I've carefully selected 0 shortwave stations which can be heard most every night and day. I've listed ose frequencies that seem to have the est regular path to Australia, although is may vary from day to day. They are urrent at the time of writing (early March), ut are subject to change and minor ad- stment by the stations. As is the conven- on when you're talking shortwave these equencies are in kilohertz and times are ven in UTC.

he time difference between UTC and ustralian zones are as follows: EST is TC + 10 hours, CST is UTC + 9.5 hours; /ST is UTC + 8 hours. Last issue we owed you how to write a reception port, to verify that you actually DID hear e station you claim to have. Now, some asic QSL tips to get you started. If a ation's QSL policy requires you to pay r return postage you should send them n IRC, or 'International Reply Coupon', hich sell at post offices for $1.35.

this is not requested then you can send our reception report on an aerogram, hich you can buy from any post office for 5 cents. Now let's get started on chasing ose stations.

HK, Japan

apan is a very small country with a very rge population. Their national hortwave outlet is NHK, also known as adio Japan, and they belong in the major ague of international broadcasters. HK has recently opened a new transmit- r site in Sackville and although these signals are not beamed directly to Australia they still offer good reception and a chance for the first QSL card in our collection. For NHK's English language programs try from 0930-10000 on 21610 or at 1100 on 11840, all of which come from the Japan transmitters. The relay station can be heard at 1100 on 6120. NHK broadcasts commence with a news segment which makes it easy to add these details on your reception report. NHK's DX program airs at 0930 each Sunday.

QSL: 2-2-1 Jinnan, Shibuya-Ku Tokyo, Japan. Return postage is not required and NHK are very quick to reply. When writing, ask for their latest program schedule and a copy of their magazine Radio Japan News.

HCJB, Ecuador

This South American station is a longtime favorite among DXers, who enjoy HCJB's excellent DX program which airs Saturdays at 0730 and 1000. You can log HCJB without fail between 0730 and 1130 on 9745 and 11925. The design of their QSL card is changed every two months, and there is also a special club for HCJB listeners.

QSL: Casilla 691, Quito Ecuador. They are one of the many 'religious' shortwave broadcasters you'll hear around the bands, which rely on donations to support their operations, so I suggest you send an IRC to cover return postage.

VOA,The Voice of America

VOA is the broadcasting arm of the United States Information Agency (USIA), and with 19 relay stations around the world you can hear the network almost any time of the day or night. You'll have no trouble identifying VOA, with their familiar "Yankee Doodle" interval tune played at the start and finish of each transmission. I tune in to VOA's communications program on 15425 between 1000 and 1030, repeated at 1210 on 15425 and at 2110 on 9700 the next day. Other VOA broadcasts can be heard at 2300 on 15185, 15225 and 15290.

QSL: VOA, Washington DC 20547, USA; no return postage required.

UAE, Middle East

The easiest Middle East station to receive in Australia is UAE Radio, transmitting from the United Arab Emirates. Their broadcast to Australia is on 21700 between 0530 and 0600 and provides a comprehensive insight into regional news and events.

QSL: External Service, UAE Radio and TV, PO Box 1695 Dubai, United Arab Emirates; no return postage required.

Vatican Radio, Italy

Yes, the Head of the Catholic Church has his own radio station which transmits Bible and scripture readings in many languages. No, they don't use 'cross polarisation'! A short English language program can be heard at 2205-2220 on 9600.

QSL: Vatican Radio, Vatican City, The Vatican. Return postage not required.

RFI, France

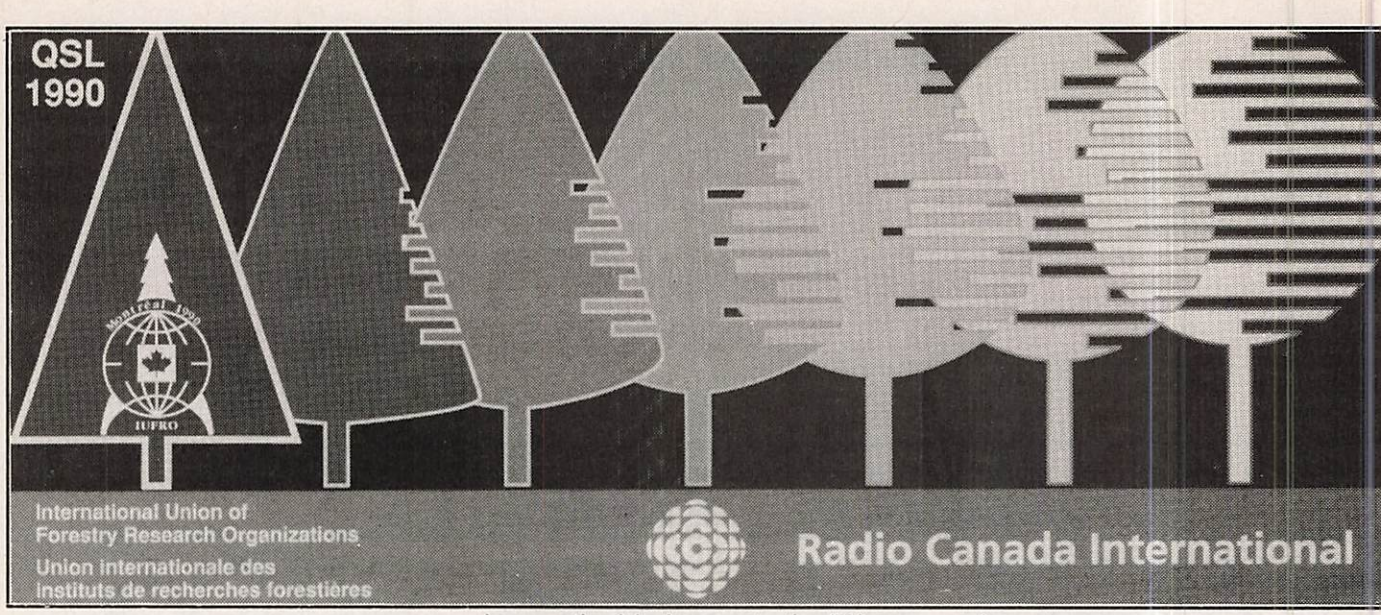
For many years Radio France International have broadcast most of their material transmissions in French. But they've recently realised the power of radio and schedule short English broadcasts between their French services. My last logging of RFI was at 1400 on 21770, a world news program which followed their station ID.

QSL: BP 9516 F-75016, Paris France; no return postage required.

TWR, Monaco

Another religious broadcaster fighting for space on the crowded shortwave bands is Trans-World Radio, broadcasting from Monaco.

Try for TWR at 0740 on 9480, which nor-



DX YOUR FIRST 20 STATIONS

(continued from page 53...)

mally provides us with a good strong signal. Their current QSL card is bright, attractive and has full details, something missing from many of the larger broadcasters these days.

QSL: BP 349, MC-98007 Monaco. Include two IRCs for a fast reply.

Radio Netherlands, The Netherlands

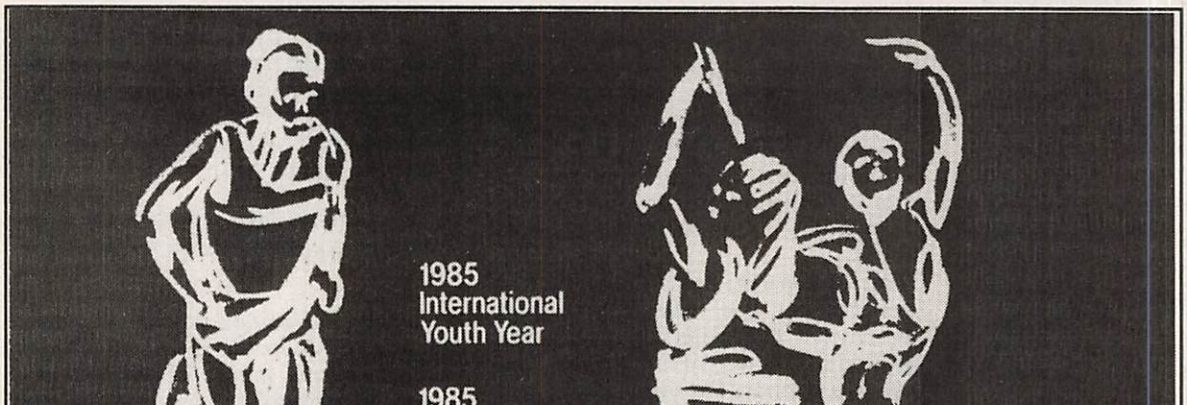
Readers of my 'DX Logbook' column will have noticed I often quote the DX program 'Media Network' as the source of some greats shortwave news and tips. Radio Netherlands is also known as 'The Happy Station' and is the home of Media Network, long considered the best DX program in the world. If you're at all interested in radio and what's happening out there, then this program is a must. RN's Bonaire relay in the Dutch Antilles provides a strong signal to Australia daily and without fail between 0730 and 0830 on 15560 and 9630, with a repeat at 1030-1130 on 11890. Media Network is aired on Thursdays starting about 20 minutes into their broadcast. On Sundays they have their popular 'Happy Station' entertainment program.

QSL: PO Box 222 Hilversum, Th Netherlands; no return postage re quired.

BRT, Belgium

BRT International is one of two shortwav services broadcast from the tiny countr of Belgium. This is a Dutch network and offers good signals in Australia at 0730 o 11695, beginning with a news prograr which highlights Belgium events an people.

QSL: BRT International, PO Box 2 B-1000 Brussels Belgium; no retur postage required.



Deutsche Welle, Germany

DW is "The Voic Of Germany" an one of Europe' powerhouse sta tions. English lan guage program to Australia can b heard at 0900 o 6160, 11740 17780, 17820 21465, 21650 an 21680. A mornin transmission i aired betwee 2100 and 2150 o 9670, 9765 11785, 13780 15350 and 15360 With the unifica tion of the two Ge manys, DW nov has at its disposa many additiona transmitters whic were onc operated by Radi

erlin International. They now have a DX rogram incorporated every four weeks in eir weekly 'Mailbag' show, heard Saturay in their broadcast to Australia at 2100.
SL: PO Box 10 04 44, 5000 Cologne 1, ermany; no return postage required. sk to be placed on the mailing list for eir magazine 'Tune In'.

TBN, America

his popular shortwave station broadasting from mainland USA was formerly nown as KUSW until it was taken over in te 1990 by evangelical Trinity Broadasting Network. Not having developed eir own programming KTBN are current- relaying audio from Trinity's American V network. Religious programming is red from 1600-0200 on 15590 and 7510 om 0200-1600. Their black and white SL card features a picture of their transitting site located at Salt Lake City, Utah.

SL: KTBN have announced a number f different addresses, I got mine from O Box A, Santa Ana, California 92711 SA. Send one IRC for return postage.

he Voice of Free China

OFC is now as strong as stations in eighboring China, and can be heard ere daily at 2200 on 11915. Programs egin with a station ID followed by local, gional and international news.
SL: PO Box 24-38, Taipei Taiwan; no eturn postage required.

TWR, Guam

ou're allowed to collect QSL cards from fferent transmitter sites of the same staon, so here's the KWR outlet from the ny Pacific island of Guam. This tropical aradise is a US Territory, and so TWR so has a mediumwave station to serve e local community. You'll get good hortwave signals between 0800 and 000 on 11805.
SL: PO Box CC, Agana, Guam. Send hree IRCs for an airmail reply although S stamps may also be used.

SDA, Guam

nother big international broadcaster of ligious programming from Guam is Adntist World Radio. AWR is a newcomer the island compared with KTWR, but as already established a large audience DXers who regularly listen to their proam 'DX Asiawaves'. Some schedule hanges have been made in line with the ew Z-91 period which began at the end March. DX Asiawaves now goes out at 230 Sundays on 13720, 1630 Saturdays n 11980, and 2330 Saturdays on 15610. he 2330 transmission is your best hance to log this one.
SL: PO Box 310, Hong Kong. Return ostage is required.

WYFR, America

'Family Radio' WYFR is an easy catch, even though they don't beam directly to Australia. Interestingly, the station studios are located in California but the actual transmitters are on the other side of the continent at Florida. Listen at 0500-0600 on 13695 and 0600-0700 on 13695 and 9680. Also try to log their 'Mailbag' show at 2200 Sunday on 17612.
QSL: 290 Hegenberger Road, Oakland, California USA. Some mint US stamps or a few IRCs will ensure a prompt reply.

Swiss Radio International, Switzerland

Here's another all-time favorite of the shortwave
bands. Every Saturday 'the two Bobs' present Swiss Shortwave Merry-Go-Round, a mixture of DX information and on-air replies to letters. There are several broadcasts DXers can hear in Australia - start with 0830-0900 on 9560, 13685, 17670 and 21695; 1000-1030 on 9560, 13685, 17670 and 21695; and 1100-1130 on 13635, 15570, 17830 and 21770 (this last one is the best for me).
QSL: PO Box CH-3000, Berne 15, Switzerland. For airmail reply enclose one IRC.

Radio Sweden, Sweden

High up in the northern hemisphere separated from Russia by the Baltic Sea you'll find the lovely country of Sweden. Their voice to the world is Radio Sweden, an excellent station which boasts that their 'Sweden Calling DXers' is the world's longest running shortwave DX program. Unfortunately due to budget cuts this program has been trimmed back from weekly to every second Tuesday. Never the less the news program which starts their English service to Australia is very informative and interesting. Reception here can be strained at times but lately there's been a reasonable signal on 21570 between 1130 and 1200.
QSL: S-105, 10 Stockholm, Sweden; no return postage required.

Radio Vienna, Austria

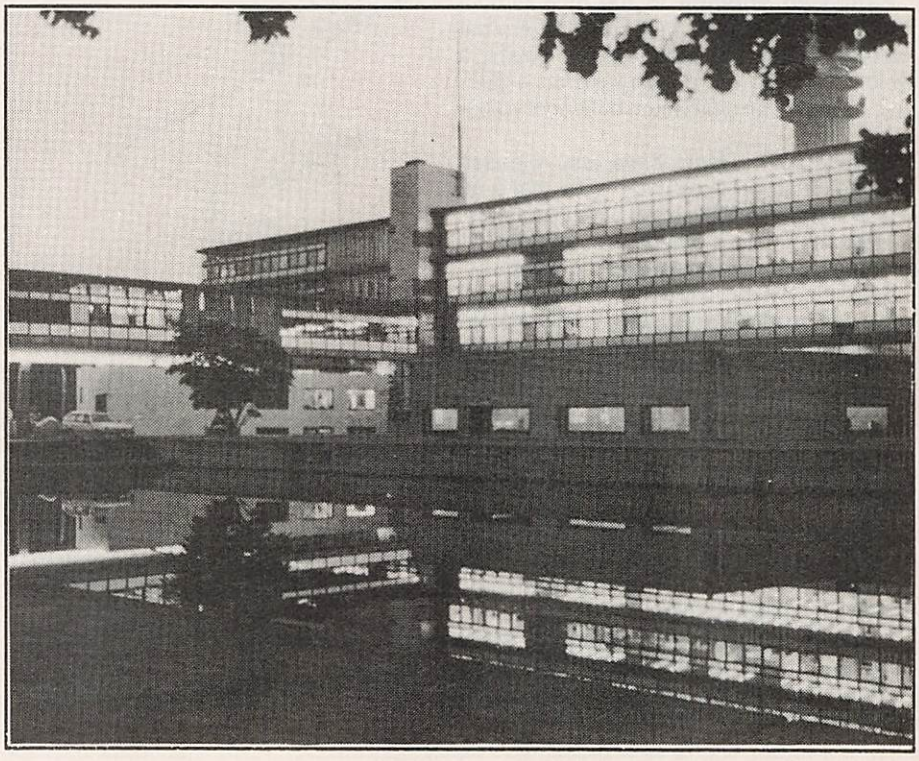
Austria, home of fine music and the Vienna Boys Choir, offers a nightly service to West Africa on 21490 between 1430-1500, which is heard in Australia. A separate beam to our region is aired from 0830-0900 on 21490 and 15450.
QSL: A-1136, Vienna, Austria; no return postage required.

Radio Beijing, China

Mainland China relies a great deal on shortwave to inform the estimated 1,000 million citizens spread throughout the country. For this reason there is a large number of domestic shortwave stations in China and you'll have no problem hearing many of them. But the jewel in their shortwave crown is Radio Beijing, which comes through between 0900-1100 on 17710, 15440 and 11755; and from 1200-1300 on 15450 and 11600.
QSL: Radio Beijing, Beijing, China; no return postage required.

ABC Radio, Australia

No SWL's collection would be complete



DX YOUR FIRST 20 STATIONS

(continued from page 55...)

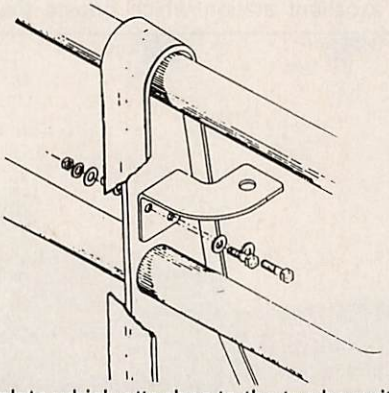
without a card from Australia. I bet you're about to say "Hey, let's QSL Radio Australia, I could do that blind-folded!". You're not going to get off THAT easy...how about logging one of the ABC 'shower' services. This is a domestic broadcast of the ABC's Radio National program , intended for rural folk back of Bourke who are not serviced by regional AM transmitters. The Northern Territory VL8 network has three services, and it's these that we'll add to our hit list. VL8A Alice Springs is on 2310 at 0830-2130 and 4835 from 2130-0830. VL8T Tennant Creek fires up on 2325 at 0830-2130 and on 4910 between 2130 and 0830. VL8K at Katherine Creek is heard on 2485 from 0830-2130 and 5025 at 2130-0830. You may also wish to try Brisbane stations VLQ on 9660 around the clock and VLM on 4990 between 1900 and 1500. West Australian shower VLW uses 9610 from 2100 to 2055; 6140 at 0945-0100 and 15425 between 2300 and 0945.

QSL: ABC, PO Box 9994 in the Darwin, Brisbane or Perth, respectively; return postage is required.

The 'Brussels calling' team...many shortwave stations are more than happy to forward station programs, QSL cards and photographs of their staff and equipment.

Well, now it's up to you...happy DXing!

LOW-COST BULLBAR MOUNT FROM SOUTH PACIFIC RADIO



Fitting an antenna to the bullbar of a 4WD vehicle used to mean having a plate welded to the top rail....easy if you're a welder by trade but a pain (and an expensive pain if it's an aluminium bullbar) if you're not.

South Pacific Radio have just released two mounting brackets which will make fitting antennas to all types of bullbars simple.

Both mounting brackets are punched to suit above-groundplane-terminated antenna bases, which, because of their lack of exposed connections and weatherproof construction, are really the only bases worth fitting to a 4WD. The first is a solid aluminium plate which attaches to the top bar with a cad-plated U-bolt and saddle.This allows the antenna to be mounted virtually anywhere on the top bar without having to drill any holes. Price.. $9.50.

The second is a steel bracket which bolts to the inner flat plate on one of the the upright "cato" sections (as shown in the diagram) used in most bullbar designs these days.

This one is a little ripper which will give any antenna installation a really "professional" look.The bracket curves neatly around the "cato" section and situates the antenna base behind the top bar, giving it a high degree of protection from stray branches, low-flying kangaroos, etc.

It comes complete with mounting hardware and is available in both Oxy-sealed (silver) or powder-coated (black) finish. Price.. $12.50.

(Dealer enquiries are welcome. Contact South Pacific Radio..see advertisement elsewhere in this magazine.)

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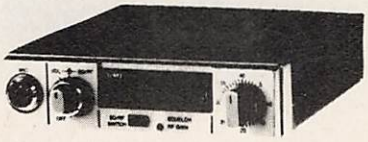
TX826 AM DELUXE



■ Ch.8 Recall ■ Compact Size ■ Last Channel Memory ■ Modulation & Signal LED Indicators ■ Digital Channel Display ■ Rotary Channel Selector ■ Combined Variable RF Gain/Squelch Control ■ Built in Noise Limiting

TX840 AM/SSB

■ Unique Auto Recall on Ch.8 ■ Separate Volume, Squelch & Clarifier Controls ■ Remote Speaker & PA Facility ■ LOC/DX & ANL Switching

TX472S 40 CHANNEL UHF/FM MOBILE TRANSCEIVER

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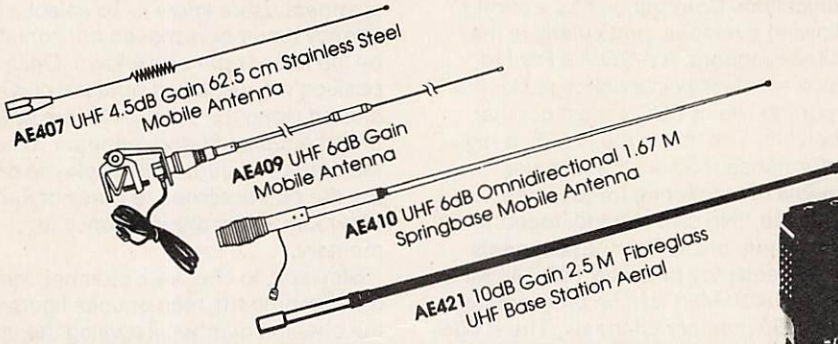
  —Group Scanning
  —Open Channel Scanning
- Memory Protection Circuit
- Hi Intensity L.E.D. Display with Dimmer Control
- Sel-Call Option



AE407 UHF 4.5dB Gain 62.5 cm Stainless Steel Mobile Antenna

AE409 UHF 6dB Gain Mobile Antenna

AE410 UHF 6dB Omnidirectional 1.67 M Springbase Mobile Antenna

AE421 10dB Gain 2.5 M Fibreglass UHF Base Station Aerial

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- Inbuilt Electret Condenser Microphone
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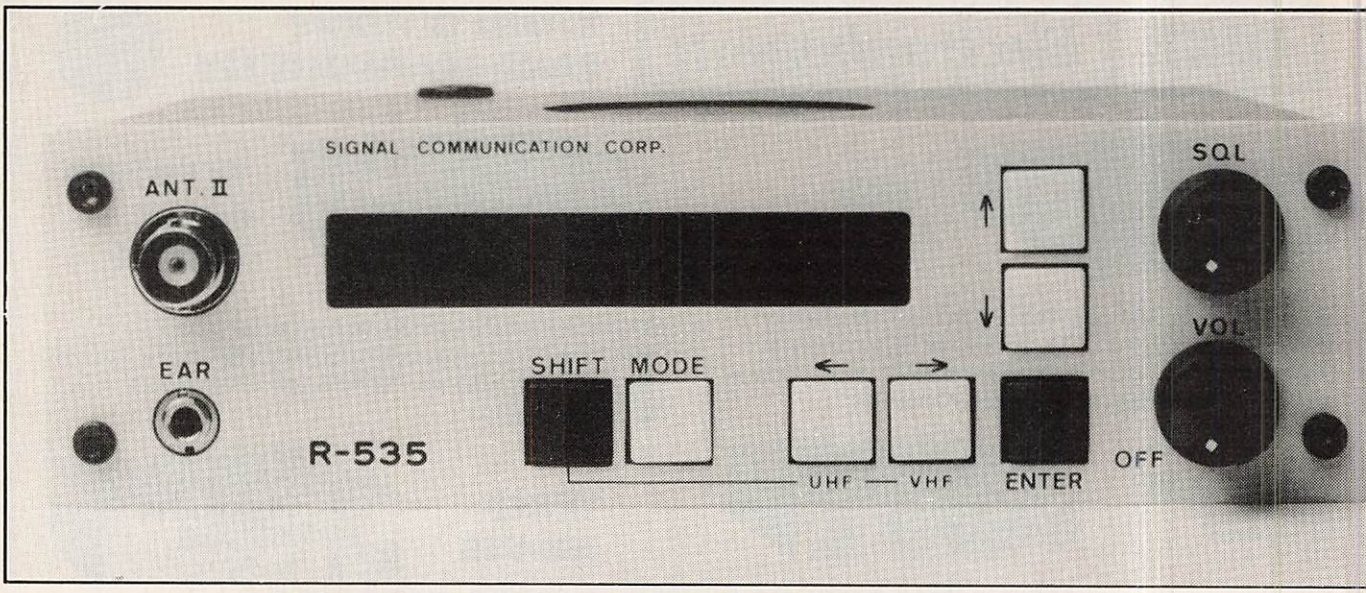


Airband enthusiasts are set to take off with the....

SIGNAL COMMUNICATIONS CORP. R535 & R537S AIRBAND RECEIVERS

As exciting as it is to visit an air show and view the flying and aircraft, taking an airband receiver to listen to the conversations between pilots and controllers adds a new dimension to the airborne action.

Within the overall hobby of monitoring the VHF and UHF airwaves there is a dedicated group who target the aircraft bands. Some, such as myself, are casual listeners, others are never more than a few minutes or metres from a airband scanner.

To the hard-core airband listener the inclusion of the commercial VHF and UHF bands in a scanner is a waste of space. They seldom, if ever, drift from the AM transmissions of the aircraft frequencies, to another service. Even associated ramp and engineering channels are ignored in the pursuit of ATC and Flight Service activity.

R 535 MOBILE AVIATION RADIO RECEIVER.

Until recently the availability of receivers that cover the UHF aircraft airbands, (225-400 MHz), has been rare. Although unknown here, equipment manufactured by the Signal Communications Corporation has a strong following overseas, particularly in the United Kingdom. AV-COMM Pty Ltd, which specialises in aviation radio, are importing two of SCC's most popular receivers. The first is the R 535, a high performance mobile type receiver capable of monitoring frequencies within the VHF civil airband, together with military or UHF aircraft channels.

Any frequency between 108-143 MHz and 220-400 MHz can be programmed into its 60 memory channels. The R 535 takes just under five seconds to cover the entire memory. A built in delay of one and half seconds means that in most cases the other side of the conversation can be heard before it resumes scanning. The 535 is a compact unit, almost DIN size, (DIN is the cavity provided in today's cars for cassette players and the like). If fact it measures 160 (W) X 46 (H) X 120 (D) mm and weighs in at 850 grams.

The uncluttered, well laid out front panel, is testimony to some very clever thinking on behalf of Signal Communications Corporation's design and development people. There is no keypad as scanners users know it. To select a frequency a cursor is moved horizontally by the left or right arrow keys. Once in position the displayed numeral can be altered using the up or down arrow key until the desired figure appears. When the correct frequency is displayed on the dot matrix screen, a press of the enter key writes the frequency to memory.

Similarly, to choose a channel, move the cursor to the tens or units figure of the channel number. Toggling the up o down keys advances or reverses the channel numbers. The frequencies entered into the channels is displayed as the channel number changes. While it may seem clumsy at first, within minutes I was able to select and enter frequency just as quickly as a normal keyboard scanner.

Also present on the front panel is a MODE key. Mode alters the operating function of the R 535 from manual, to scan or search facilities. The SHIFT key, adjacent to the mode function, allows selection of either the VHF or UH

quency ranges. As I mentioned ear- the LCD is dot matrix. The display is manently backlit, the user having a ice of two brightness levels, one for use and the other for night opera-. Squelch, volume, as well as a mm earphone jack and BNC anten- socket make up the remainder of the trol panel.

he front mounted BNC is one of ee antenna connectors available on SCC R 535. A standard SO 239 F connector is mounted on the rear el, this connector is parallel wired a 'screw in' aerial socket located p the receiver. This aerial is similar he type found on many conventional nners such as the PRO 2005/2006. side the UHF socket is a switch ch, when toggled to the ANT II posi-, disconnects the SO 239 and inter- whip while at the same time the t mounted BNC is switched in.

he 12 page instruction booklet that ompanies the R 535 is detailed in operation and features of the radio. xplains in very good English how to gram the receiver in manual mode, n mode, and to search for new ac- frequencies. It even has plans for ding a home made aerial from three e mains cable.

pecifications are quoted as sen- ity .5 microvolt or better, 50 ohms enna impedance on all connectors, ver requirement is 12VDC negative round rated at 300mA. Audio output n the top mounted speaker is mW. Accessories supplied with the 35 include mounting hardware and cket, telescoping in-door antenna, power cord, DC power supply and rating manual. AV-COMM has also uding a list of VHF/UHF airband fre- ncies to get you started.

MMARY

erall the R 535 is an impressive nitor. In fact it so impressed the ean civil air authority that they have talled them in their official com- nications setup. commended retail is $429.00.

537S HANDHELD AIRCRAFT AND RECEIVER.

he R 537S is a variable, manually ed, VHF aircraft band receiver that has provision for two fixed air VHF nnels. Frequency range is 118-136 z for either the analog tuner or the stal positions. Sensitivity is the same spective of the receiver mode ected.

graduated dial mounted on the top el of the receiver is used to select quencies. It is surprising just how kly and accurately an active chan- nel can be tuned, especially given the near 1 MHz separation between the markers on the dial. The first of two, two position switches selects either VFO (variable frequency oscillator) or the fixed frequencies. The second slide switch, marked A and B, is used to monitor either of the fixed crystal channels.

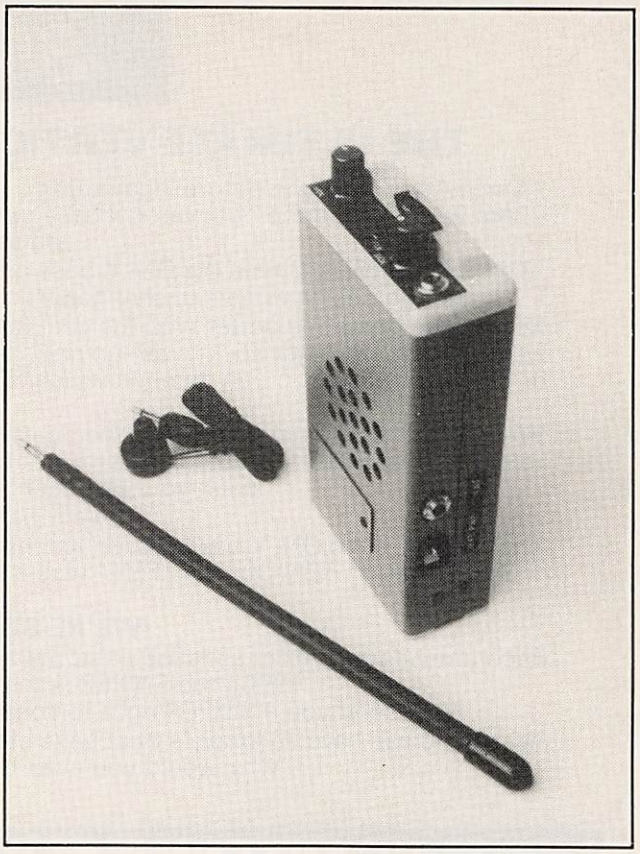
As a part of the test of the R 537S, I decided to check its drift factor. I set the dial to an active FIS channel between two other busy frequencies. Over a period of several days the radio remained relatively stable. Little drift was detected - in fact it was so slight as to be almost undetectable.

Power is supplied from a 9V battery with a current drain of around 15mA. To avoid an extensive battery bill, external power can be fitted to the radio via a co-axial socket located on the side of the radio. Just above the DC socket is the earphone jack, a better spot for this would be the set's top panel. It makes it difficult to slide the compact unit into your shirt pocket if the earphone is installed.

To cut out the noise associated with AM transmissions, a squelch control is provided. It is unusual to find muting on receivers given the price of the R 537S. Volume output is more than adequate, given the size of the speaker and the amp driving it.

Sensitivity is around 1.5 microvolts or better. While this is not a spectacular figure, the 537S performed well with only a few airfield-located services being below the squelch.

My listening post is about 80 kilometres north of the airport.

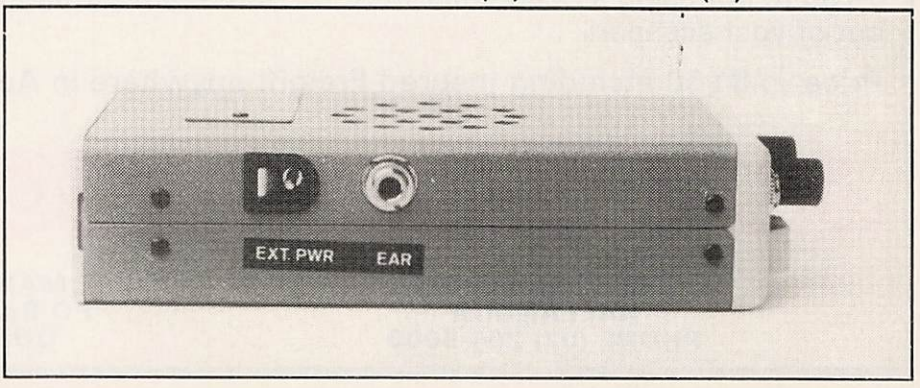


Above: R-537S is a neat little unit and sells at a reasonable price, however, (below) side mounted ear-plug would be better located on top of the unit.

SUMMARY

The supplied 'rubber duckie' whip has an unusual connector. Signal Comms has used a 3.5mm audio plug. The R 537S may not be the set many hardened or 'professional' airband enthusiasts will purchase, however, for the casual listener or beginner, the 537S is certainly worth investigating.
Recommended retail of the R 537S is $199 while crystals cut to your specific frequency cost $29.95.

Enquiries regarding either receivers should be directed to the Signal Communications Corporation's Australian agent AV-COMM Pty Ltd, PO Box 386, NORTHBRIDGE 2063, NSW. Telephone (02) 949 7417 or Fax (02) 949 7095.



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The SNIPER is the ONLY base station antenna to ever get a BETTER rating from CB Action than our SPR-27, and "TEN-OUT-OF-TEN" was a hard act to follow. No other antenna has even come close!!

WE'RE STILL NUMBER ONE!!

Recommendations from satisfied customers sell more antennas than all our advertising, and in the 1990s the SNIPER is the antenna everyone's talking about.

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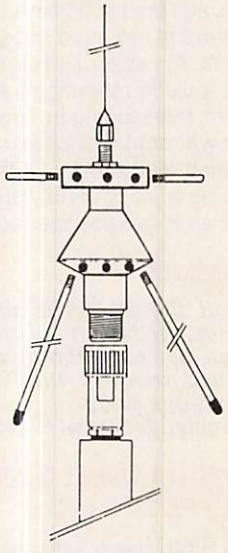
(Test Report in September 1987 CB Action)



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spectrum anarchy

from Rod Fewster

TELLING IT HOW IT IS !

Not a great deal to report this issue . . . once again very few CBers bothered to write or call with any information about what's happening around the place.

Oh sure, I received the usual predictable pile of letters from nomadic CBers telling me how they'd travelled around the countryside like the Leyland Brothers visiting friends they'd met on-air, but while these stories may make interesting reading in a club magazine they're not really suitable for inclusion in this column. Unless you people keep me informed about what's going on out there this column will get smaller and smaller until it finally disappears altogether.
SO GET WITH IT !

ALEX - NOT SO GOOD

A voice conspicuous by its absence on Channel 8 in Brisbane is that of Alex, better known to Brisbane truckies and motorists as Gateway Base. Alex suffered a stroke recently. For a while it looked like he might come good again but as I write this column the old guy is confined to a wheelchair in Mount Olivet Hospital, and at this stage it looks like he will be staying off-air for good.

PHANTOM SELCALLER

I've had reports from three different sources about some character calling himself The Phantom Selcaller, who has been giving Southside UHFers curry both on-air and off-air. The guy obviously has a programmable selcall unit and every now and then fires off six or eight calls, creating online chaos for a few minutes. He seems to have it in for one particular group, and wrote one of the members a letter saying he knows where the members live, their car registration numbers, etc, and included a couple of samples to prove his point.

MORE ON SELCALLS

Still on selcalls...it seems that someone (allegedly an Emergency Monitor, but no-one wants to tell me his/her name) has been using selcall on 5/35 for quite some time. Both 5 and 35 are designated by DoTaC for emergency use only. Having a transceiver sitting there muted waiting for a selcall is NOT monitoring the Emergency Channel. What this character is doing is using the "quiet" 5/35 repeater for his/her own convenience, and that's just not on! This behavior has been brought to the attention of DoTaC and Brochure DOC214 is being amended to prohibit the use of muted transceivers/selcalls on 5/35.

IS THIS THE NEW CALL CHANNEL?

Channel 35 (27 MHz) seems to have taken over completely as the SSB Call Channel, and not only does it look like most people have forgotten that channel 16 is the REAL Call Channel, it also looks like most people have forgotten that Channel 16 even exists.
The other day I listened to a station in New Zealand having a 20-minute three-way conversation with two Hawaiian stations on 16 without attracting the attention of a single breaker and without being told to "QSY the Call Channel ya mug". At the same time 35 was in absolute chaos due to the heavy skip and the swarms of Aussies trying to contact Hawaii and the USA and both the defunct Australian channels (7 and 16) were occupied by Hawaiians talking locally to one another.

WHAT HAPPENED TO EUROPE?

The skip is certainly behaving strangely as Cycle 22 winds down. I haven't heard western Europe or England on 27 MHz for yonks, but around 3.30 one recent morning I picked up a heavy Yorkshire accent on 35 LSB calling DX while I was mobile (I hadn't heard a sound apart from QRN for an hour or more at the time).
The signal was so good I thought it was local, so I answered. Turned out to be a guy named Prem, a Pakistani born and living in Bradford, England. I pulled over and talked with him for about 10 minutes at better than S9 both ways (from a mobile, mind you) until his signal suddenly dropped away to zero in mid-sentence. I listened all the way home, but heard nothing more. It was just one of those odd "windows" which open up from time to time.

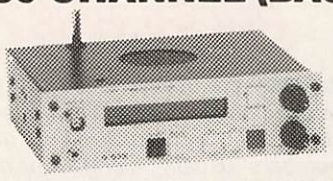
SADDAM AND CB

I've heard that three Kuwaiti teenagers (two boys and a girl) were executed by Saddam Hussein's troops for no other reason than the fact that they owned CB transceivers but I haven't been able to confirm this. Anyone know anything about it?

FOR THE WINNER OF THE MARCH/APRIL WORDMAZE
TURN TO PAGE 29
SORRY, BUT NO WORDMAZE IN THIS ISSUE BUT ONE FOR SURE IN THE ONE AFTER THAT.

R535 VHF/UHF AIRBAND RECEIVER

60 CHANNEL (BASE/MOBILE)



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dx international

WHAT'S BEING HEARD ON THE DX CHANNELS ... ***FROM JACK HADEN***

As sunspot cycle 22 begins its gradual decline, a number of prominent DX groups, mainly based in Europe, are finding it hard to entice new and retain old members within their ranks. This, of course, is nothing new to DXers who have been about for a couple of cycles.

AFRICAN & INDIAN OCEAN REGIONS

Signals from this area still are topsy-turvy, one day they are good then there's nothing for days after. It is a case of being about the radio at the right time, checking both the long and shortpaths for the best results.

A few good signals have been coming from the Canary Islands with 34-AT-124, operated by Paco in Las Palmas, leading the way. At 2125z Paco was five by five in eastern Australia and had quite a few chasing him. At a later time of 0210z Vicky, who signs as 34-AT-109, was heard with a five by two signal.

Azores Islands were noted on the longpath by way of Juan, who signs as the 75-AZ-010, and at 2140z he was a good five by five peaking seven at times. Juan uses a groundplane antenna with a Superstar transceiver from his home near Pico.

Melilla, a Spanish possession in North Africa, was logged on the band at 0138z by way of Jose who signs as 106-AT-108. Jose was an excellent five by nine at the time and had no shortage of takers to his call. Jose also signs as 106-RC-00 and all QSL cards go via 1-AT-793 in Italy.The central northwest African country of Niger was heard on the band by way of Sam,who signs as 285-DX, and was operating portable from Agadez. Sam was five by three at 0653z but quickly faded away as the noise from Europe increased.

The Congo, on the west coast of Africa, was heard briefly on air by way of Osvaldo, the 1-AT-900 operating portable 214-AT, and at 2045z via the longpath Osvaldo was a very poor three by zero and appeared to be working into Europe at the time.

Sierra Leone has been about on odd longpath openings by way of Joe, who signs as the 65-LA-101, and at 2233z was a barely readable four by one and at 0152z was noted again but still at a po signal report, virtually unworkable here eastern Australia.

Angela was logged on the longpath 2052z by way of a station signing "757" from Luanda. The signal was a po four by one at the time and it was so clear that this person only spoke P tugese and was only interested in a co tact with Portugal at the time.Djibouti still about for those who need it and 0333z Monique, who signs as 186-R 01, was five by three but subject to hea fade. You may have to polish up yo French to secure this one as he only h limited English.

As usual the regulars from Re Uni Island and Mauritius have been abo along with a station signing as 185-A 101 from the Comoros Islands in t Southern Indian Ocean. At 0711z he w four by two but subject to heavy no from western Europe at the time.

Michele, who signs as DX-01 from t Maldive Islands, was logged on the ba at 0422z with a fair five by three rep from the capital of Male. Michele is a co at a tourist resort and plans to be in t Maldives for around two years. He hop to have a better antenna system sent him from France about mid-year to bo his signal.

MIDDLE EAST & ARABIA

Not a lot was heard from this reg during the Gulf conflict, but now w Kuwait finally gaining its freedom a things slowly returning to normal in ot Gulf states we should hear some mu needed activity. With Kuwait city in virt ruin it will be some time before we h news about the safety of the regulars w were once dominant on the band from t part of the world. Let's hope they are s and sound and will be on air again soo

Saudi Arabia has been about on o times, mostly by way of Americans bas there during the war. At 2148z via t longpath I logged a good five by n signal from Homer, who was signing SAUDI-163, and was only interested making contact with the US. Homer w soon followed by local Saudi resid Yennis, who signs as the 48-AT-103, a at 2211z was a good five by three via t longpath. QSL cards for Yennis go 1-AT-067 in Italy.

Israel is still about for those who nee and at 0655z I logged the 97-AT-2 operated by Rob, however, despite be

HAS THE ALFA TANGO GROUP GOT PROBLEMS?

The first clubs to fade away *are usually those who offer virtually nothing to the membership based outside their country of origin, these are the ones we hear on air giving out membership numbers at random with little or no membership prerequisites required. Most of their "members" usually belong to one of the more prominent groups anyway and accept the callsign given over air as a courtesy, only to forget all about it further down the log.*

Not only are *the fly-by-night clubs finding things hard but there have been rumblings of discontent in the overseas divisions of the bigger groups and Australia has been no exception. Not long ago the South Australian director of the Alfa Tango Group launched a sort of coup d'etat against the Victorian director who was appointed Australian director of Alfa Tango. A letter was circulated by the South Australian director due to the current discontent and rumblings about the way the Victorian director was handling the job. After a check with Alfa Tango headquarters in Italy, it was soon found that the South Australian director went upand launched the coup d'etat without any prior permission or consultation with HQ in Italy.*

This failed coup *brought home to many members of the Alfa Tango group in Australia that the club is not so well organised as it makes out to be. There has even been a rumor that some of the pre-membership requirements have been eased a little in order to get new membership and thus more unit numbers issued. However, it is quite clear that a number of people have opted to drop out of Alfa Tango, judging by the increasing amount of re-issued calls heard on the band. People are not going to part with hard earned money for annual membership and club materials if the after-sales service isn't good or, in some cases, non-existent, not to mention a lack of communication from the divisional HQ to the membership - a lesson many a club has learnt in the past.*

mmed Rob managed a good five by ree peaking five by six at times. Later at evening I logged regular DELTA TATION operated by Tolly at 0840z with poor four by one signal - a good effort ough as the band was virtually dead re at the time.

JROPE

Over the past few months there have en increasing numbers of stations ap- aring from eastern Europe and provid- g you can get a break from the pile-ups western European stations calling them u should be able to log something.

Poland was noted at 0830z by way of ke, who signs as the 161-AT-110 from dlow. Mike was five by five at the time d all QSL cards go via his manager in ly who is the 1-AT-476.

Kazakistan in the USSR was logged at 29z by way of Alex who operates as the 8-CB-08. Alex had a huge pile-up on hands and was a reasonable five by signal at the time.

Azerbijan in the USSR was heard with good five by six report at 0936z by way Alex (a popular name in eastern rope!) signing as the 303-AT-103. He s still there at 1006z but the signal had teriorated to five by two.

Bulgaria was represented by regular tion 178-OP-101 operated by Angelo. 0644z Angelo was a four by two and s looking for stations outside Europe at time.

Romania was logged at 0845z by way a station calling as "233-ROMANIA" d with a five by five report had no ortage of callers. A number of ominent DXers in Europe suggested t this one was a slim operating from goslavia.

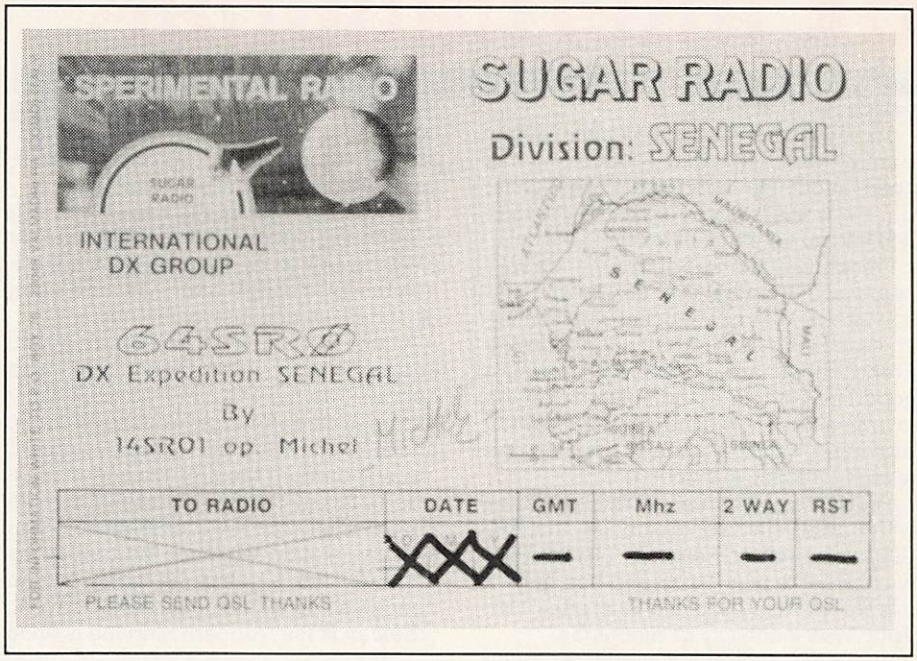
Corsica has been about for those still in ed of this one. At 0843z Daniel, who erates as the 104-AT-111, was a good by six and was looking for Pacific and countries.

Monaco appeared with a good five by ht report by way of Jacky, who is the 7-AT-104, however, when I noted him 0904z Jacky was only after eastern ropean stations.

Aland Island as usual was about the nds by way of prominent DXer Sture, o signs as the 212-AT-105. At 1000z re was a good five by three peaking six times.

Quite a number of stations were heard lling 211-AT Jan Mayen Island at 58z. Despite listening for over 30 nutes I heard nothing and the stations lling gradually vanished to other parts the band.

Gibraltar was noted at 0918z by way of NF-001, name unknown. He was a od five by five at the time and looking eastern Europe only.



Senegal continues to be a much sought-after country on 11 metres and will be reactivated again during May of this year.

Luxembourg is still around the traps if you are still chasing this one and an 0858z I heard Alain, who operates as the 54-AT-108, doing good business on the band. Alain, who hails from Ettelbruck, was five by six at the time.

CENTRAL/SOUTH AMERICA & THE CARIBBEAN

Quite a hive of activity has emerged from this part of the world in recent weeks with signals well into the red on the meter here on the east coast of Australia and in the Pacific.

Honduras was pushing the meter above the nine mark at 0152z by way of the 28-AT-170, name unknown. He was five by nine plus 10DB and was calling for Japanese and Korean stations only.

Guatemala was heard at the early time slot of 2142z with a five by seven signal from Cesar who signs as the 72-AT-110. Later at 2255z Cesar was a very strong five by nine plus 20DB.

El Salvador appeared briefly at 2112z by way of station "105" operated by Julio in the capital San Salvador. Julio was five by eight and had quite a lot of trouble with his English.

Nicaragua was represented on the band by way of UNIT-666 operated by Fernandez and at 2343z was a fair five by four report. Fernandez uses a President Washington transceiver into a five element beam at 30 feet from the capital Managua.

Antigua in the Caribbean was heard calling at 0220z by way of 120-AR-001, name unknown. He was five by three at the time and a number of north Americans started a pile-up calling him.

Dominica Island in the West Indies was noted at 0305z with Andrew, operating as the UNIT-250, leading the way with a five by nine signal from Roseau, the capital. Andrew uses a Cobra 2000 GTL radio into an Amtron-99 antenna.

The Bahamas are still about and at 2259z I logged BY-266, name unknown, calling for the Pacific region. At the time he was a good five by five and had a number of New Zealand stations chasing him.

Some stations were heard at 0410z calling 231-SK-101 on Saint Peter & Saint Paul Rocks, however, I heard no trace of the station being called and the pile-up died away to nothing in a matter of minutes.

The island of St Kitts has been about for the taking with Vernon the KP-563 being most active. Vernon was five by seven at 0417z proving his PDL-2 antenna is doing the job for him. Also from St Kitts the station 283-AB-102 has been active, name unknown. I heard this one at 0458z with a poor four by two report.

Saint Marten Saba-Eust Island is generating quite a bit of interest on the band with Ronny the 166-AT-101 waving the flag so to speak. Ronny was noted at 0510z with a good five by nine signal. Ronny advises there has been some delay with the QSL cards (via his manager 19-AT-195) and says just be a little patient and do not re-QSL.

Aruba in the Dutch West Indies has been about on odd occasions by way of 232-EU-101 operated by Jean Pierre. At 0405z Jean Pierre was a good five by six

dx international

continued from prior page...

peaking nine at times.

Chris the 158-VC-158 has been very active from Trinidad & Tobago and has been about the band most weekends. Chris was five by nine plus 20DB at 0458z and had no shortage of takers to his calls.

French Guyana in South America was heard about the band at 0617z with station 22-AT-109, name unknown, working some stations in New Caledonia (in the French language, of course!). He was a good five by nine at the time and on the following day I heard the same gentleman working a Pacific station in English, one to look for if you still need it.

Ecuador has been about in abundance with one of the strongest being the AR-999 operated by Tony. At 0611z Tony was five nine plus 10DB and had quite a pile-up of Australian stations after him. Tony lives in the city of Riobamba.

Suriname is still about by way of regular DXer Reggie, who signs as the 73-SR-01 from the capital of Paramaribo. Reggie was five by eight at 0200z and later at 0312z was five by nine plus 20DB on peaks.

Peru was well represented on the band with the strong signal coming from the station of Fern, who signs as UNIT-449 based in the capital Lima. Fern was five by nine constant at 0702z and was enjoying a rag chew with a few people in Australia.

A hefty five by nine plus 30DB signal was heard from Buenos Aires, the capital of Argentina by way of Carmelo who operates as the 4-AT-159, the signal held at this level from 0317z to 0358z before fading off.

As usual the regulars from Uruguay, Brazil, Paraguay, Bolivia are about all with good signals as too are the regulars from Venezuela and Colombia, I think by now most DXers will have had these one in the bag by now.

ASIA & THE PACIFIC REGION

A number of stations from the Asian parts of the USSR are still about, however, by now I think most avid DXers should have them confirmed as their signals are very good on most days when the band is open.

John, the 96-AT-101, is back on air from Nuku'alofa, the capital of Tonga and is quite active. John at 1100z, which is quite late for him to be up, was a good five by seven and had settled in for another year's work.

The Marshall Islands are still around with Alden, the 132-AT-101 being the most active. At 0657z Alden was five by five with quite a few stations chasing him.

Activity from the Solomon Islands has been heard from Ty who operates as MAI-351 from a plantation on one of the islands. At 0442z Ty was five by four.

Fiji has been about the band with Jean Claude signing as 99-SK-102 and at 0122z was five by four. He had quite a number of stations after him and soon closed down because of the noise.

American Samoa is back on air again, courtesy of regular DXer Tony who operates as the PINEAPPLE-995. Tony has been off air for a while due to ill health, and at 2311z was a fair four by two report.

A station from the small island of Niue was noted at 0115z requesting a radio check. Signing as ZK-2, operated by Russell, the station vanished as quickly as appeared so I guess he got what he needed as he was a good five by seven.

Saipan in the Northern Mariana Islands was around at 2350z with Peta signing a the 133-RM-02. Peta was five by seven a the time and looking for a regular conta in the Philippines.

Pohnpei, in the Eastern Caroline Is lands, was logged at 0145z by way station NM-101 operated by Lido Kolonia, the capital of Pohnpei. It appea that Lido was calling a fishing boat at th time and was not at all interested in DX DXers for that matter.

Banaba (ex-Ocean Island) in Weste Kiribati was heard on the band via a yac called CARLA drifting off Banab operated by skipper Gary, who signs a WMR-3921. The CARLA was bound f Tarawa and as seas were too rough Banaba the vessel sailed past. It is a pi that they didn't get ashore for a few da and set up a station as 320-AT Banaba indeed a rare one and must be near th top of the wanted list.

..and that's about it for this issue.

73 Jack

DXexpedition NEWS UPDATE

Kalingradsk in the USSR appeared over the Christmas break as 307-RC-0 an was five by three at 0745z with the usual armada of Europeans in hot pursuit. QSL remote unknown.

India appeared throughout January by way of Bruno who signed as 57-GIR-10 and at 2042z via the longpath on 26 January he was five by nine but quickly fade our. QSL route via 1-GIR-01, Virgilio in Italy with SASE, contact number and on greenstamp.

A number of stations were heard calling 144-AT-0 Easter Island over the firs weekend of February, however, nothing was heard and it was assumed that the failed to get on air or it was just a rumor.

Montserrat in the West Indies was activated by prominent Puerto Rican DXe Ozzie who signed as 157-AT-0 over the period 23 & 24 February. Ozzie was five b seven at 0315z and cards with contact number etc go to 11-AT-116.

A large throng of stations were heard calling 179-AT-0 over 23 and 24 February Again, I heard no sound contact made so this one may have been deferred or faile to appear. Czechoslovakia is still needed by most.

The rumored operation from San Felix to sign as 288-SR-0 was not heard on 2 or 24 February although many stations were heard calling around 2303z on the 24th but no replies were heard.

The Gambia should appear on air as 118-AT-0, although I have two sets of date for this one: 1 to 24 March and 29 April to 3 May. It is a case of wait and see whic one is correct! QSL route unknown to date.

Ogasawara Island was rumored to have appeared around 9 March signing a 281-AT-0. Many were heard calling but no replies - perhaps another rumor?

Czechoslovakia appeared on 10 March as 179-AT/13-AT-000 and was logged a 0722z five by five report. By 0800z they had faded out. QSL via 13-AT-000 Clu Station with contact number SASE etc.

Goree Island off the coast of Senegal, west Africa will be activated over the perio 6 to 11 May as 64-AT-0. The QSL route is via 14-AT-027 in France.

Romania will be on air as 233-NF-0 over the period 3 to 9 August. At present th QSL route is unknown.

Albania will be activated as 251-NF-0 during 10 to 15 August and, as with th Romania DXpedition, QSL route is still to be announced.

The Greek island of Crete will be activated once again as 90-AT-0 during th period 19 to 23 August, QSL route to be announced.

Auckland Island was supposed to have been activated back in March but not sound was heard from the 282 division, although it was rumored some New Zealar DXers were going to make the trip. However, there was plenty of amateur rad activity from Auckland Island with two separate ZL9 stations on air on the amate bands.

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UH005 UNIDEN..... $499
SAWTRON KG 109..... $ASK
Regency AR477 to clear..... $490

Full range of Marktronics heavy duty cases plus original accessories Call in for price list & brochure

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100XLT Uniden handheld..... $359
200XLT Uniden handheld..... $489
760XLT Uniden base/mobile.. $489

★ SPECIAL TO CLEAR

SC8000 SAIKO..... $299
BJ200 CHALLENGER..... $299

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- IC R1 Icom handheld..... $699
- IC R100 Icom Mobile..... $999
- IC R72A 100 kHz-30MHz..... $1290
- IC R9000 1MHz-2GHz..... $7550
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- ITRON 27MHz ½ Wave..... $75
- Megatron 27MHz No. one..... $95
- Megatron (option) Ground Plane..... $35
- Megatron (option) Bracket..... $9
- 27MHz 3 Element Beam..... $99
- UHF 6 dB Colinear commercial quality..... $79
- UHF 9 dB Colinear commercial quality..... $159
- UHF 16 Element Yagi commercial quality..... $179

MOBILE

- ZCG T24 Slim pre tuned..... $30
- ZCG T27-B with slope adjust..... $39
- ZCG S39 most popular P/tuned..... $35
- ZCG Z59 h/duty 5' P/tuned..... $59
- Standard F/G 3 foot 5/16"..... $8
- Standard F/G 5 foot 5/16"..... $12
- MXLR Redback 0.95M..... $18
- MXLR Mini stick 1.25M..... $19
- MXLR Totem 1.80M..... $49
- MXLR Extenda 2.00M..... $59
- Mobile one skip whip kit..... $149
- Mobile one skip chaser..... $199
- UHF 4.5dB High gain whip..... $33
- UHF 4.5dB with spring..... $39
- UHF RFI Phasemaster black..... $27
- UHF Safari stick..... $119
- UHF AE409 6+9 DB..... $89

ACCESSORIES

- Standard H.F. base..... $5
- Standard UHF base..... $8
- Magnetic base 5/16 Kit..... $49
- Gutter bracket "Auzzi"..... $24
- Mirror mount..... $6
- Bull bar bracket..... $5
- Guard mount..... $7
- Cable kit 27MHz includes Teflock..... $22
- Cable kit 477MHz includes Teflock..... $25

Biggest accessory range. Enquire now.

ANTENNA ROTATOR

- Economy Jeb..... $199

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- Benelec 8-105-8 speaker..... $22
- Crimp tool..... $39
- DM 7000 compression base mic..... $95
- Benelec 7-702 Microphone..... $18
- Marktronic H/D case TX475..... $75
- Marktronic H/D case UH005..... $75
- TX475 Headset/boom mic..... $99
- KLB400 YHF Linear 20W..... $390
- KLB470 UHF Linear 45W..... $490
- TX5500 HF Linear 220W..... $590
- Comet 2 way switch UHF-type..... $55
- Comet 2 way switch N-type..... $65
- Imark PM1000 VSWR..... $290
- Pearce Simpson XSWR-S..... $85
- Teflock PL259 Auzzi..... $5
- Kings BNC RG58..... $5
- RG58 C/U per 100M..... $85
- RG213 C/U per 100M..... $250
- ICM80 ICOM VHF..... $500
- Uniden 610 + OTC mic..... $380
- Uniden 790 + OTC mic..... $480
- GT 16000 Metal detector..... $1190
- Eureka Ace metal detector..... $690
- Imark 4 amp power supply..... $85

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★ We will have a 008 HOT LINE for PHONE ORDERS from MAY and our CATALOGUE for 1991 will be completed SOON . . . Members Edition.

So if we have missed you, don't worry, complain straight away and you will be looked after .....*Kevin*

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- ☐ Vic/Tas location "soon 1991 edition"..... $27.90
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AUSTRALIAN UHF REPEATER LIST

NOTE: Corrections and updates may be sent to: CBA Repeater Listing, PO Box E160, St James, NSW 2000.

ACT

Canberra	2/32
Canberra	8/38

New South Wales

Albury	6/36
Armidale	4/34
Barraba	6/36
Bathurst	8/38
Bega	6/36
Belbora	1/31
Binya	3/33
Blue Mountains	2/32
Bombala	8/38
Booral	7/37
Bowral	6/36
Braidwood	
Brewarrina	1/31
Brindabella Ranges	7/37
Broken Hill	4/34
Broken Hill	7/37
Buladelah	7/37
Casino	6/36
Cobar	8/38
Coffs Harbour	6/36
Coolah	6/36
Cooma	4/34
Coonabarabran	4/34
Corowa	2/32
Corowa	5/35
Corwa	7/37
Deepwater	5/35
Deniliquin	1/31
Dungog	3/33
Eden	2/32
Glen Innes	7/37
Grafton	8/38
Grenfell	1/31
Gundagai	7/37
Gunnedah	2/32
Guyra	1/31
Warden	1/31
Hay	4/34
Inverell	2/32
Jindabyne	1/31
Junee	5/35
Lismore	2/32
Manilla	3/33
Murrirundi	3/33
Muswellbrook	4/34
Narrabri	2/32
Narranderra	8/38
Narromine	5/35
Narromine	6/36
Newcastle	1/31
Newcastle	2/32
Newcastle	5/35
Newcastle	6/36
Nundle	7/37
Orange	3/33
Port Macquarie	2/32
Sydney (south)	1/31
Sydney (west)	3/33
Sydney (outer-west)	4/34
Sydney (north)	7/37
Tamworth	4/34
Tenterfield	3/33
Tumbarumba	3/33
Tumut	6/36
Tweeds Heads	4/34
Wagga Wagga	1/31
Wagga Wagga	5/35
Walbundrie	2/32
Walcha	2/32
Walcha	6/36
Walcha	8/38
Warrumbungles	1/31
Wingham	1/31
Wilcannia	1/31
Wollongong	8/38

Northern Territory

Bushy Park	1/31
Darwin	1/31
Erldunda Station	3/33
Katherine	2/32
Maryvale Station	4/34
Mt Swan	2/32

Queensland

Alpha	2/32
Atherton	8/38
Amiens	8/38
Ayr	3/33
Barcaldine Downs	1/31
Bathurst Heads	1/31
Bauhina Downs	4/34
Biloela	7/37
Blackall	8/38
Blackwater	6/36
Brisbane	1/31
Brisbane	5/35
Brisbane	7/37
Bundaberg	4/34
Bundaberg	7/37
Cairns	3/33
Chinchilla	8/38
Clermont	6/36
Clermont	7/37
Crows Nest	6/36
Dimbulah	6/36
Dirranbandi	8/38
Double Island Point	3/33
Edward River	3/33
Emerald	8/38
Gladstone	6/36
Gold Coast	3/33
Goondiwindi	4/34
Gympie	2/32
Gympie	5/35
Gympie	7/37
Hervey Bay	8/38
Hughenden	1/31
Ingham	2/32
Inglewood	1/31
Innisfail	1/31
Ipswich	4/34
Jericho	4/34
Kilcoy	3/33
Lakeland Downs	2/32
Longreach	3/33
Mackay	3/33
Mackay	6/36
Marlborough	2/32
Maryborough	6/36
Maxwelton	2/32
Miles	6/36
Monto	3/33
Moranbah	4/34
Moura	1/31
Mt Isa	1/31
Mundubbera	6/36
Murgon	7/37
Quilpie	2/32
Rockhampton	1/31
Rockhampton	4/34
Roma	1/31
Springsure	3/33
Sunshine Coast	6/36
Sunshine Coast	8/38
Tambo	6/36
Taroom	2/32
Thargomindah	6/36
Toowoomba	2/32
Toowoomba	4/34
Townsville	1/31
Townsville	4/34
Wavell Heights	2/32
Warwick	1/31
Wide Bay	1/31
Yaraka	7/37

South Australia

Adelaide	1/31
Adelaide	3/33
Adelaide	5/35
Angaston	4/34
Blinman	3/33
Carrietown	1/31
Ceduna	1/31
Clare	7/37
Cleve	2/32
Coonalpyn	6/36
Coppudurba Hill	1/31
Hawker	7/37
Kangaroo Island	4/34
Manum	8/38
Mt Bryan	8/38
Mt Gambier	5/35
Mt Gambier	7/37
Myponga	2/32
Naracoorte	4/34
Orroroo	2/32
Port Lincoln	8/38
Port Pirie	4/34
Renmark	6/36
Snowtown	6/36
Tarcoola	6/36
Wilkatana	8/38
Yorketown	7/37

Tasmania

Burnie	8/38
Central Highlands	7/37
Devonport	1
East Coast	6
Flinders Island	1
Hobart	1
Hobart	5
Launceston	2
Launceston	6
Midlands	4
North East Coast	3
North West Coast	4
North West Coast	6
West Coast	2

Victoria

Alexandra	1
Ballarat	2
Ballarat	5
Bairnsdale	7
Beech Forest	3
Bendigo	4
Cavendish	8
Currajung	4
Echuca	6
Euroa	3
Falls Creek	3
Foster	6
Geelong	4
Halls Gap	6
Hamilton	5
Harcourt	8
Hawkesdale	4
Horsham	3
Kerang	2
Lavington	4
Mansfield	2
Melbourne (north)	1
Melbourne (metro)	3
Melbourne (metro)	5
Melbourne (south)	7
Mildura	3
Moe	2
Mornington Pen.	6
Mortlake	7
Mt Cann	8
Mt Concord	6
Mt Delegate	3
Mt Terrible	8
Myrtleford	6
Penshurst	1
Shepparton	7
St Arnaud	1
Swifts Creek	1
Talangatta	7
Wangarrata	6
Waubra	1

West Australia

Albany	1
Augusta	1
Bencubin	3
Boyup Brook	4
Bunbury	1
Carnamah	2
Carnarvon	1
Coolgardie	1
Darkin	6
Denmark	1
Esperance	4
Kalgoorlie	1
Kambalda	1
Katanning	1
Kellerberrin	1
Kulin	4
Lancelin	7
Mandurah	6
Manjimup	1
Margaret River	6
Meekatharra	1
Merredin	3
Mia Mia	3
Mt Manypeaks	1
Mt Barker	5
Mt Barrow	1
Mt Saddleback	1
Mt Solus	4
Nannup	3
Perth	1
Perth	5
Perth	6
Perth	8
Ravensthorpe	1
Stirling Ranges	1
Wickham	5
Wongan Hills	6
Wyalkatchem	1
York	7

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